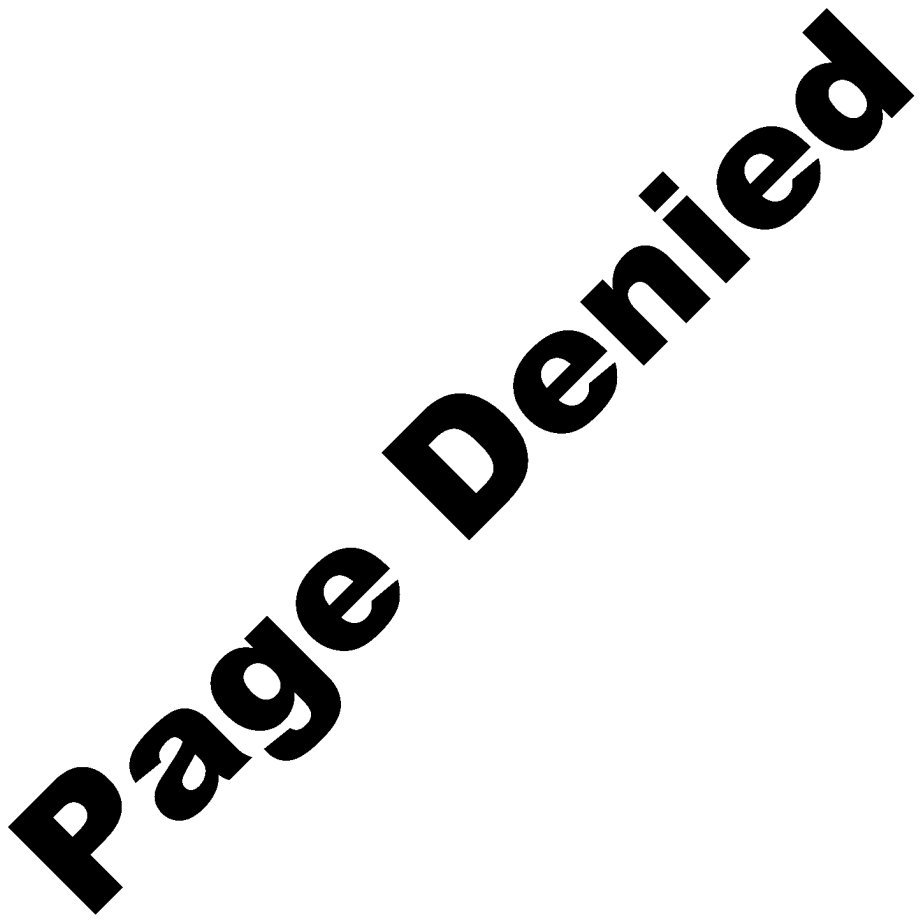
A GEOGRAPHIC SKETCH OF

ŠVENTOJI.



Map of Šventoji and viccinity-1944.

THE NOTES TO THE ATTACHD MAP OF Š V E N T O J I .

The map has been traced from the latest prints used by the lithuanian national topographic service late in 1939. They were:

1. One map of 1:100 000, #1100 "Šventoji-Darbėnai" a reprint from the german General Staff map of 1916, with some corrections in the spelling. Here were replaced the german names of spme locations with the lithuanian ones.
2. An other map of 1:100 000 scale was the entirely revised sheet of Palanga-Kretinga #1200, all in lithuanian spelling and more essential changes.

The way in which the tracing was made, was this one: 1The two here mentioned sheets were matched together a nd photographied 2. After that a enlargement was made to the size applied in the tracing.

It should be stressed that the most valuable material is put in the upper part of the map. The lower part is less important Unless the upper part of the map was overdated, it was used by the lithuanian topographic service and army, because resurveying and redrawing of this portion of the country was not completed due to the brocken out of theworld war II.

Surelly, since 1916 there were some changes in the topography, especially of the structure of the populated ~~points~~ spots of this area. So, since this area was incorporated in 1920 into terrritory of Lithuanian republic, the land reform made changes in the map, because large farming estates like Butinge, Kaulgraužiai) were partitioned ad many small farming steads appeared on the map.

The number of new settlements increased arond the peasant villages

also, due of natural population increament(1% annually).
Bet the most important changes occured in this period around the inlet of Šventoji river, where was going to build the fishery port in Šventoji. (Here) The road net suffered essential changes, one pretty dispersed village arouse, channel dug out ,a system of breakwatters errected ect. STAT

It should be s aid that the ditch net of both portion of the map should be more dense, because of new diggings applied after 1920.(pitty swamps and meadows around Šventoji).
The ~~xxxx~~ contour lines in the upper part of the map are given in whole russian sazhen's, which contain 2.1 metres or 6.9 feet.
Izobatic contours are given in the upper part, because ~~there~~ they were ~~they~~ available. there.
The narrow gauge rail road , shown in the map is reconstructed from the german general staff map 1:300 000, 1944

PART I. NATURAL CONDITIONS.

I. THE NAME OF ŠVENTOJI.

Šventoji (spelled also Shventoee) means in Lithuanian- "A Holy one". Among numerous Lithuanian lakes, rivers and creeks are many ones which bear same name. This originates with comes from the religious practices of old pagan Lithuanians and Curonians, who once settled which has place in the area there. Some places were of them got thus named because of the fact that there have been baptised Lithuanian pagans were baptised at this place. to christians.

The Germans and Russians named the river "Heiligen Aa" and the Soviets now call it at present "Shventoee Baltiiskaya".

2. THE GEOGRAPHIC location SITUATION OF ŠVENTOJI.

$\varphi_N = 56^\circ\ 02'$ *)

$\lambda_E = 21^\circ\ 04^8$

The port of Šventoji is located in the outlet of Šventoji river, which flows from N and around the outlet-NE.
The high latitude of Šventoji brings about longer daylight periods during the summer as at lower latitudes. This helps vegetation to compensate for the shortness of the vegetation period (170-200days).

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*) Jonas Simoliūnas. Šventosios uostas 1933, pg. 189

Location	Activity of sun	March 18 th. Time	Daylight	June 23 rd Time	Daylight	September 23rd Time	Daylight	December 23rd Time	Daylight
Vilnius *) (Wilno) about 54°45' N	sunrise	6-09		3-28		5-49		8-26	
	duration		11-58		17-07		12-08		6-56
	sunset	6-07		8-35		5-57		3-32	
~~Chicago~~		March	21st	June 21	st	September 23	rd	December	22nd
Chicago Ill. about 41°45N	sunrise	6-02		4-29		5-48		7-20	
	duration		12-11		15-05		12-08		9-16
	sunset	6-13		7-34		5-56		4-36	

*) Vilenskii kalendar 1904.

In Biržai (56° 15' N) and in Šventoji (56° 02' N) around June 23 ~~at the~~ daylight lasts even longer than in Vilniusa and when the weather is fair there is practically no night, ~~which substitutes~~ rather, a short twilight period. The latitude of the Šventoji is ~~to see in the New World over~~ similar to that of the peninsula of Labrador, ~~with~~ its typical subarctic climate. In Lithuania ~~the~~ climate is moderate, allowing to grow there wheat, sugar beet and other valuable crops to be grown. This is due to the ~~cultures because of~~ positive influence of ~~the~~ Gulf Stream and favorable movements of air masses from the Atlantic over the continent.

Polar lights are often visible in Šventoji during the autumn months. ~~The autumn in Šventoji often is to observe the polar light.~~

3. ADMINISTATIVE ~~LOCATION~~ STATUS OF ŠVENTOJI.

Befor war I, the village of Šventoji, located around the inlet of the Šventoji river, ~~with~~ on a 17 km long ~~and few km wide~~ strip of Baltic shore belonged to the Russian zarist government of ~~Kuronia~~ Curonia, governed under special Curonian laws, which were based on ~~the~~ German law ~~practice~~ ~~of~~ in the past. It became a part of Lithuania in 1921*). ~~Since 1921*) it became lithuanian.~~ Until 1944 it was located in the township of Palanga, in the county of Kretinga. At present Šventoji is located in the region of Kretinga. **)

~~In regard to the neighbour sea ports~~ Šventoji is located 40 km north of Klaipeda and 63 km. south of ~~sea~~ the port of Liepaya.

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*) J. Šimoliūnas. pg. 129, Technika 1933.

**) Sovetskaya Litva 222, 1952

4. THE GEOLOGICAL STRUCTURE OF THE ŠVENTOJI AREA.

The Vulcanic crystal rock is burried pretty deep under the glacial rubbish-about 800-900 metres deep . The deepest boring even made in this area was up to 400 metres deep*)

The Sedimentary formations covering vulcanic rock are generally horizontal, just here, in the western part of the country it size some. These formations contain various types of of mineral material, like lyers of clay, sand, gravel, loam a.s.o.

The glacials brought over here much rubbish of the main rock, which was the scandinavian granit and gneis. As product of the mechanical and chemical destruction of them was mainly loam with eratic blocks and stones of various sizes. The glacial separations on the uplands of the country are 200-250 metres thick, but on the Baltic shores and generally in western portions of the lowland 120 and even 80 metres thick. Specially in the area of Šventoji the glacial rubbish is about 80 m. thick.

The deepest well boring made before warI in Palanga (12 km. south of Šventoji) at the level 5 m. over sea level shows following composition:

a) 0 - 1,8 m.	Sand and gravel
b) 1.8-79.3 "	Difluvial rubbish of the by the glacial driven lime stone material.
c) 79.3 - 180.0	Greasy redish lime stone,
d) 180.0- 200.0	Redish sandy dolomitic lime stone with shells.

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*) Lietuva II. 1953, #4,pg 101.

**) Bieliukas K. Sovetskaya Litva. 1955, pg 13-21.

e) 200.0-205.0 m. Reddish sandy dolomitic limestone with shells,

f) 205.0-215.0 Same as above but with remnants of shells.

205.0-229.0 Pale reddish sandy dolomitic limestone with shells.

A more simplified scheme of this boring is shown by J. Šimoliūnas in his book about Šventoji*) and in illustration 9 the drawing on the pg 11 here. The construction of the bottom of the Baltic sea in the shore region at Šventoji, made in 1922-1925 to study the bottom for the errection of the breakwaters, (drawing B pg 11 and on pg 17), show a detailed construction up to the depth of 14 metres (land) and up to 205 m far into the sea.

1 boring

+ 1.50 to - 1.50 pally gray sand

- 1.50 " -3.50 gray sand

- 3.50 # -4.50 pally gray sand

- 4.50 " - 8.50 gray hard clay.

2 boring

+ 0.20 to -2.0 gray sand

-2.0 " -4.60 fine gray sand with some alloy of gray clay

- 4.60 " -14.0 fine gray sand

3 boring

+ 0.5 to - 0.5 medium yellow sand

- 0.5 " -4.5 fine gray sand

- 4.5 " - 8.5 medium blackish gray sand

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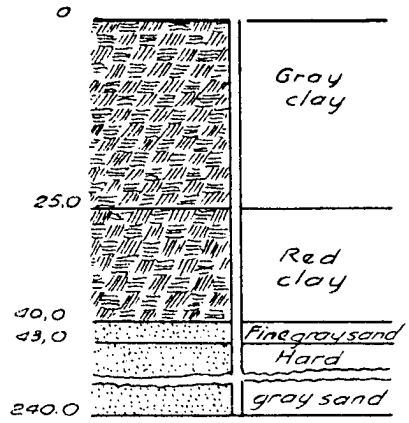
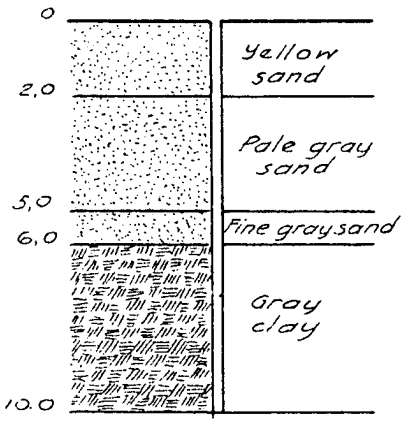
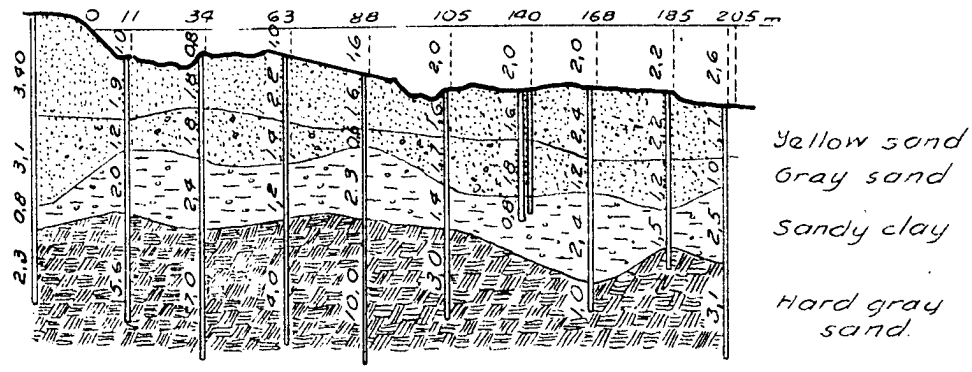
*)J. Simoliunas Technika 1933, pg 223 and Pr. Jodele. Geologiniai tyrinėjimai 1922, pg 56 and 57.



A. Boring made in Polanga (5m. above sea level) before 1st world war.



B. Boring made on the Baltic sea shore in Polanga in 1922.



C. Cross section thru the Baltic coastal bottom in Sventaji (1925) showing boring results used for the construction of the northern waterbreak.

Source: Technika 1933. pg. 225-226

TYPICAL BORINGS ON THE LITHUANIAN BALTIC SHORE

4 boring

+ 0.20	to + 0.80	gray sand
+ 0.8	" - 0.80	fine gray sand

5 boring

+ 2.0	to 0	gray sand
0	" - 4.0	
- 4.0	"- 5.0	gray sand with some gray clay
- 5.0	"- 8.0	gray hard ~~xxxx~~ clay with stones

6 boring

+ 4.0	to - 2.8	gray sand
- 2.8	" - 4.8	sandy loam
- 4.8	" - 6.3	gray sand
- 6.3	" -9.8	hard gray clay with stones

7 boring

+ 0.2	to - 2.0	yellow sand
- 2.0	" - 8.5	fine gray sand

A,B and C borings:

0 to - 8.5 gravelly sand.

In short, everewhere around the outlet of the Šventoji river, where the fishery port was proposed and constructed, the upper lyers of the s◊il(3-6 m thick) are constructed of sands and gravels. The lyers below consist df clay, good enough for haevy constructions.*)

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*) J. Simoliŭnas. Technika 1933 , pg 227.

Generally the lyers of sand and gravel located over the compact masses of clay ~~xx~~ are thicker at Šventoji and thinner going south- and eastwards from Šventoji. Thus the clay ground appears at the earth surface allready in Palanga (12 km, south)on the waterline of the shore, covered with some driftind sand. The clay lyers appears at the surface going eastwards in the area of farming estate of Želviai ~~xxxxxx~~ and eastwards of Butinge in the coastal displayings of the Šventoji river*).

The surface as much of the continet as of sea bottom is covered with the sand and gravel.

5. THE BOTTOM OF THE BALTIC SEA.

The coastal zone surrounding Šventoji fishery port was studied by the danish fishery biologist Dr. Blegvad in 1928.**) He zonded and studyied the sea bottom around Šventoji and Palanga as far as 30 sea miles (54 km.) He found that:

1. The hard sandy cover of the bottom goes from the shore line to the depth of 20 metres, which is located 3,5 km. from the shore line. (se map on the pg. 2)
2. Gravely and stony bottoms beginns at depth of 15-50 m. The soft sand bottom takes places inbetween this zone some ~~some pla-~~ ~~ces~~
3. ~~XXX~~ Same soft sand bottom appears at the depth of 20 to 40 metres , about 14 sea miles west of the shore line.
4. The areas of 40 and more metres depth consist of clay.

The first here described zone ~~xx~~ of bottom is destinguished by the presence of bigger rocks, which in some places are visible

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*)Technika 1933 ,pg 86, 179. **) I. Končius. Palangos kraštas1927

over the water surface. The biggest observed by the author was about 50 cubic feet (above the bottom line), the most of them are much smaller. They all are scattered over the bottom and never are concentrated on a certain spot. *) The location of the stones is well known to the native fishermen, who very rarely suffer crashes on them.

The drift sand, driven by the watre in the coastal zone, up to depth of 12 sometimes 15 metres**) is fine sand mostly 0.25 mm. in diameter. When sea is wavy, especially by the SW winds, there is drifted gravel also. The NW winds bring mostly coarse gravel.

The drift sand is a trouble maker for all eastern coast ports of the Baltic sea. In a period of 1930 to 1940 in the area around Šventoji there was drifted and sedimented 3 to 5 metres high of sand***). Therefore the previous shore line , shown on the old maps, does not fit now and should be thought moved far away seawards.

The shape of the bottom surface around Šventoji is continuously declining toward sea.

According to the testimony of expirienced native fishermen of Palanga****) the construction of the sea bottom in this region is as follows:

1. From the shore line to the depth of 25-35 metres, which are located as far as 20 km from the shore line, extends a bottom

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*) Good picture of the Baltic shore with the stones is put in the Lietuvių Enciklopedija, Boston, Mass. Vol 10-1956, pg 109.

**) Information of the author .

***) K. Bieliukas. Litovskaya ESSR.1955.

****) I. KOnčius. Palangos Kr. pg104

~~2x~~ with a plenty of rocks and stones.

2. Farther, past this zone of bottom, beginns a 2 km wide strip of sandy bottom,
3. Further westwards again a stony bottom 10 km wide,
4. Again some ahalf of km. sandy bottom,
5. Past this zone beginns at depth of 60-70 m. stony bottom

The limits of this strip are to the fishermen unknown.

6. THE SHAPE OF THE CONTINENTAL SURFACE.

Generally the surface beginning from the shore line to the east is destinguished by the changing of some elevated stripes and depressions, running N-S. The Cross section on the page 16 here shows the successiveness of that elevated and depressed stripes.

The first remerkable elevated area, which runs N-S is the a narrow strip of the sea beach and sand dunes, followin g it.

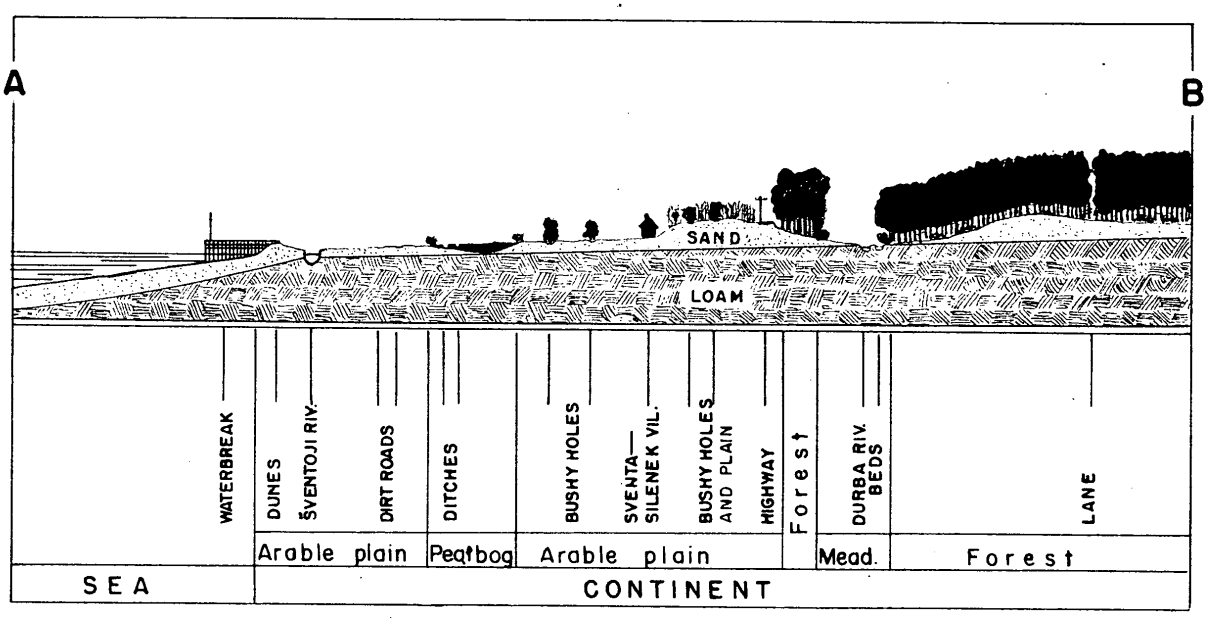
The second stripe is the narrow strip of the arable plain.

Farther eastward from N to S. extends the strip of a depression (about 1 km. wide) which bears the swamps ~~and~~, swampy meadows and pastures.

The second elevated area bears the most of arable fields and most of populated locations.

After this strip extends again a depression N-S, the valley of the river of Šventoji and Dubra, which both run the same direction , parallel to the Baltic coast.

After this depression beginns the slightly hilly area, covered chiefly with the pine foerst , interrupted by the some arable areas



3 SECTION A–B THRU THE BALTIC COAST AT ŠVENTOJI

Scales: Vertical 1" = 100'
Horizontal 1" = 2640'

2. DESCRIPTION OF THE INDIVIDUAL STRIPES.

a. The beach (see pict. pg. 18)

The beach along the lithuanian Baltic coast is a narrow one and is 3 to 20 m. wide. *)

The most narrow beach borders the Baltic coast north of Šventoji. There it is on some places 3 to 5 metres wide. The widest beach is located around the inlet of Šventoji river. On the map (pg 2 here) the inland limits of the beach coincide with the contour line of 2.1 m. or 6.9 feet.

At narrow places the slope is 2:1, at wide ones 2:1 ~~1:15 or even 1:20~~.

The soil of the beach is formed by the fine sand with a narrow border of the gravel on the shore line. This stripe is 1-2 metres wide and gravel is 2-3mm in diameter. The gravel is penetrated tru with the water and is pretty miry. South of the Šventoji, around of Palanga, clay lyers make the ~~beach~~ underground of the beach, which is covered with some sea sand. There the beach is hard one. **)

The wet and miry gravel strip in the area around Šventoji doesn't hurt the landing of the fisher boats. or to fish with a pulling net from the shore.

The border stripe of the beach with the sand dunes, if wet weather, is good to walk, if dry - miry and hard to walk.

Usually in stormy weather the waves reach the sand dunes not only on the narrow stripes of the beach, but even on the wide ones.

The sand forming beach and dunes is a fine one-0.25 mm. in dia.

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*) I. Končius. Palangos krastas 1926 , pg. 21.

**) Same.

Typical beach life in summer south of the Šventoji, 1939

It is white with some yellowish tune. It consists chiefly of quartz with some dark corns of basic minerals. At storm the flying sand hurts face and the hands.

The beach is used for the purposes of direct fishery (from the beach) as it was custom since ancient times, and in the area around port of Šventoji for the bath. late in summer.

The organic drift consits of sea grass. The grass is abundant just in autumn, when stormy SW winds use to blow.

The dead fish drift is pretty abundant,but is always cleaned by the sea birds (seagulls).

The best and the widest beach is located about 6 km (4 miles) south of Sventoji. It is about 30m. wide, is hard and used for fisher boat landing, making Valgoms *) of Paliepgiriai

b. Sand dunes.

The strip of the sand dunes extends N-S along the Baltic coast. The width of the sand dune strip varried from 100 m. to 1000 m. The widest strip, abput 1000 m. ist located around the inlet of Šventoji. **). The average width is 250 m. North of Šventoji there are sand dune stripes as wide as 200 m.

The hight of them varied considerably. Thus north of the Šventoji they are the highest and south of Renke(see map on pg 2) their highest point is 9.7 metres. The average hight is 6-7 m. Generally where the sand dune straip is wide, the hight is low, and reversed. Around the Šventoji the sand dunes are most deformed and ~~xxiix~~. plain. Here in stormy weather sometimes the water is able to cross the dunes and make big damages for the inner port ~~yard~~ basin., especially by the stormy SW winds in autumn.

*) Valgoms means in kuronian -beach. **)I.Koncius,1926, pg21

The sand dunes strip consists of few or many ~~xxxdy~~ sandy waves (see pict pg21) Their slope to the beach is pretty stip 2-2.5:1 The sand dune sand is same as on the beach (see pg 17) It is easy carried by the wind if it is dry.

The dunes are scarcely covered with special dunes vegetation: grasses of Elymus arenarium and Amophilia arenaria (see pict. pg 21) which were tried to seed here since the beginn of last century. Between the dunes, where ~~the~~ depressions ~~xxx~~ have most of moisture, sodding is pretty solid and firm, but the tops of the dunes are mostly bold ones and in dry weather there always smokes the carried sand. At least is grown up with grasses and bushes the northern dunes. Those areas were always the troble child of all gouvernments. Some 45 hectars (about 100 acres) were palnted and seeded around Šventoji in 1925-1940 . It was bushes of willow ,of low pine and seeds of ~~xxxx~~ sand dunes grasses. The large areas of scotch pine plantings (good results) were maid in that time north of Palanga. Now, in soviet Lithuania, the same troubles occure with the planting of dunes ~~xxxxx~~

There are some cross-depressions thru the dunes, which are used as roads to the beaches. Those roads are bad, sandy, not reinforced with clay or crushed stone. They are hard to pass. at those roads usualy were the posts of the border guard. Such ones roads are available at every one village. They are not numerous. Usually the roads connect the landing places of the fisher boats(valgoms) with ~~the~~ corresponding villages,

The vegetation cover of the dunes is far of complicy. The sand , carried from the tops and disposed spots of the dunes, moves continuously landwards, and covers the swampy area as much as arable plains.

7. Pasmo wydmy nadbrzeżnej z *Ammophila arenaria*.
Chaine de dunes sur le côte avec *Ammophila arenaria*.

Typical sand dunes south of Šventoji (Photo Hryniewiecki ~~1933~~ 1912).

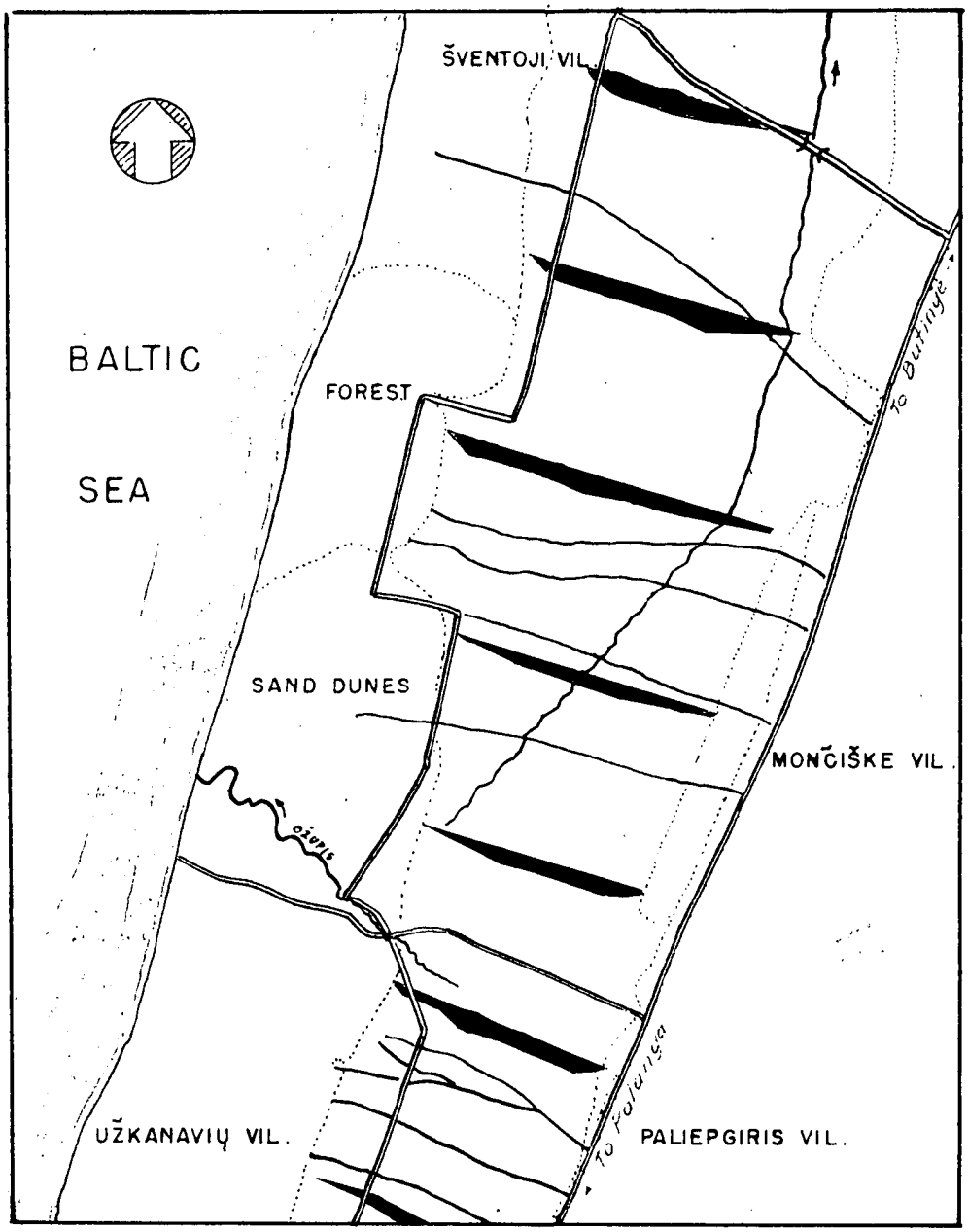
Inbetween of the dunes, in their depressions mostly, are located small wooden blockhauses of very poor fishermen. (see map: Torben, Renke, Sibas, Škeriški).
On the most elevated dunes there were always the lumber made small shanties of the lithuanian costal guard.

c. The skyline of the Šventoji is a wavy chain of half boldy sand dunes with a wooden constructions of waterbreacks and few wooden blockhouses in the port of Šventoji. Farther the chain of white stucco covered two story cotteges and the comb of the pine forests on the horizon.

d. The peat bogs (swamps).(see typical peat bog south of Šventoji pg. 23 here) and pict on the pg 25)

With some exceptions(around Lupeiki and around Šventoji) the inner borders of the sand dunes touch the N-S run depression -the peat bog swamps. The depressions are not deep. The deepest point of them is 4.5 metres(south of Šventoji(see pg 23). but the average depth is about 2 metres.*)Even this lowest point of the depression is some elevated over the sea level and is fed by the fresh water and formed by the continental vegetations(fresh water vegetations). The depression at ~~their~~ its ~~edges~~ edges is shallow and continuously get deeper to the center of it. Thus the central portions are the deepest.one.
The peat is black one. Among the amorphe mass of the ripe peat there are visible rests of the not miniralised tissues of the swamp vegetation.(reed grass, sedge some willow branches also)

*) I. Končius & V. Ruokis. Palangos kraštas 1926



6. THE DEPTH OF THE PEAT BOG OF MONČIŠKE VILLAGE (SOUTH OF ŠVENTOJI).

Scales: Vertical 1" = 65'
Horizontal 1" = 1420' = 1/3 Mile

I. Končius and V. Ruokis. Palangos kraštas. 1926.

It stinks for H_2S. The peat mass contains very high percentage of mineral stuffs, because of sand blew in by the wind from the sand dunes. In northern portion of the depression the ash stuff percentage is as high as 4.11%% and around Palanga even 22.07 %% *) On many some elevated ~~xxx~~ places of the depression are growing bushes and trees of willows and black alder, scattered over all depression in groups, stripes and islands. They are not dense, because are steadily used as fuel wood .by the native population. The depressions since ancient times were very moist and useless.

It was going to drain the water by the mean of open ~~xxx~~ ditches. Especially after world war I was going to increase the number of the ditches and in 1940 there was a very dense net of them. As result-the pupulation, as a rule poor one, has gained large areas which were cultivated to meadows, pastures, in some causes even vege table gardens.

Neverless the depressed situation of the location caused usualy extended floods, in which the storm water from the sea rised ~~elevated~~ the level of the Šventoji river (which is on the same level with the sea up to the farming estate of Bytinge)and floods used to cover large areas of swampy depression and even the lower parts of the arable plains. For this time the coast of Baltic was long time unpassable.

The water, containing in this swampy depression is of brown color and used usualy only by the cattle for drink.

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*)I. KOnčius. Palangos kraštas, 1926, pg. 97.

25. Bagno za pasem wydm 6 klm. od Połągi.
Marécage derrière une chaine de dunes à 6 klm. de Polonga.

The peat bog near Šventoji(Hryniewiecki) 1913.

The peat bogs, their surrounding meadows, pastures are marshy, boggy and hard to pas with haevy equipment, especially at the most moist ~~points~~ spots. The crossing of that areas is seriously hindered by the dense net of 1.0 to 2.o m. wide ditches. and abandoned peat holes. The bottom of all tiese depressioned areas is chiefly loamy, cemented by the natural cements (organic accides and ferro oxydes)

e. The arable sandy plains. (pict. on the pg. 27 here)

Right behind of the sand dunes around Lupeiki, Rutein, Sibas and Šventoji(see the map on pg. 2) there is a small arable plain area, which with the considerably larger arable area behind the peat bog stripe(between Windiki and Paliepgiriai) makes the ground for most of populated portion of the area.

The soil everewhere here is sahdy and very poor. It is mostly sand soil , formed by the sand dunes sand, brought by the wind. It is steril and not fertile. Under the sand lyer is located either loam or clay, which keep the ground water good and keep the sand soil pretty moist, specially in the holes and depressions. The average distance to the clay or loam lyers is 1.80 m. The clay and loam layer is here about 80 m. thick.

On this plains wing current made many holes or depressions up to 1.5 m. deep and from 2 to 20 m. in diameter. The widest are the deepest also. Slopes of that holes are rounded up. The bottom of them is usually darker as the top and much moister, because of the nearness of the ground water.

Thiese holes are grown up with the bushes of willows, junipers and with the trees of black alder, scotch pine and some spruces. They are pretty dense unless they are cut intensivelly by the native populations as fuel wood. The soil cover consists of some

15. Płaszczysta równina utrwalona przez trawę *Festuca rubra* var. *arenaria* częściowo *Festuca ovina;* jedynie wzdłuż brzegów strumyka rozwija się bujniejsza darń złożona z innych traw i roślin wodnych przybrzeżnych. Plaine sabloneuse fixée par la *Festuca rubra* v. *arenaria*, en partie par la *Festuca ovina*; rives du ruisseau couvertes par un tapis d'autres herbes et de plantes aquatiques.

Typical arable plain, south of Šventoji

(Hryniewiecki) 1912.

reed and sedge grasses.Thiese holes sharply destinguish among the monoton , wavy and sandy fields. Than and there are available smmall wooden blockhouse type houses and necessary farming structures of native peasants. The picture is monoton, poor and not attractive. The lowest and most poorely drained area of that plain is located around Šventoji port itself.

The sandy soil is extremely poor. It contains 82 %% of colorless quartz corns, 4%% of yellowish quartzit, 11%% of greenish quartzit and 3%% of dark granit corns.

Unless the sand blown in from the dunes is of marine origin, the soil is not sour because the salinity of the Baltic sea at this point is very low -about 1%%.The sand is washed out, is steril and bad for valuable agricultural plantings. There are just little soil colloids in there. The artificial fertilizer, manure and marine grass(see below) put in the soil improve it some way. There are cultivated :rye, oat, potaoes. In vegetable gardens: red beats, cabage, carotts, some redish and other ordinary plants. They grow under haevy fertilizing. The farming in the stripe about 5 km landward was applied as support for fishery as main proffesion. The real farmers are to find behind of that distance from the shore.

f. The forests.

Going from the sea shore eastward, the arble plain rises continuously. Nevertless the drainage even on the most elevated points is poor, because the loam and clay lyers are near the surface and the ground water level and therefore this area is sutable to grow forests, which are perfect water drainers. Thus behind the highway

Liepaya(Latvia) - Klaipeda (Sov. Lithuania)see map pg 2) are spreading the pine forests.

Thiese pine forest are of two types: (see pg 31)

1 Fresh pine forests on deep and fresh sandy soil on most elevated locations are grown with pine (Pinus sylvestris), which grows here in an age of 100 years 20-25 m. high, about 30 cm in the breast hight, forming pretty wide crown an much haevy branches. In the ripe stands of this type there grows much junipers (Juniperus communis) and the stand of pine is thin. The soil is covered between trunks of pines and bushes of junipers with the densy grass cover of sedges Normally the young stands of this type of pine forests are dense But practically they are not dense enough and are interrupted by grassy holes and new plantings of pine. The branches of the young trees are located almost to the erth surface and visibility here is more as apoor one.*)The ~~most transparent are the stande~~ thickets are going to be transparent about 30 years old , with the high of 12-15 metres, and a average thickness of 12-15 cm. There is no undergrowth and the visbility is good one. There usually is no grass also. All this forests are very vulnerable,because of the forest fire danger.

In the depressions grows an other type of moist pine forests which is descibed below.

2. The moist pine forests are growing here in the depressions among the foerest type described above. The soil is moist, marshy, and pitty. In some places is continuously standig water, surrounded by the reed and sedge grasses. There are growing among some pine trees the black alder, birch and willows also, occasionally is growing spruce and on the minerally heaps between water surface, grow the bushes of the sprout black alder. Much red and sedge grases in the

aged stands of this type (~~piet. on the pg 31 here~~). Visibility poor one.

The young stands of this type are very densy forming a mixture of various trees and bushes(picture is available in the attached here lithuanian magazine "Technika" 258 & 259 1933, pg 148.) Visibility very poor. The forests of this type is hard to pass and in the rainy perion inpossible even.to do so.

The growth of the type is poor and far behind of the fresh pine fprests.

The all thies forests are divided in the forest guarding units of 300-350 hectars and guarded by the forest guard. One forest guard stead is located east of the farming estate of Butinge (see map pg. 2) ~~and~~ an other is living in Laukžeme, third one in Paliepgiriai.

Each forest guarding unit of 300-350 hectars is divided into squares 50-100 hectares ~~with~~ by mean of the natural roads or special cut lanes. The lanes and the roads are kept off of grass and this is the duty of nowadays forest guard.*) Especially those types of forests are vulnerable by the foerst fires and therefore they should be specially sharply guarded, especially in summer. at dry weather. The lanes and the regular roads are 3-4 m wide. They are cleaned from undergrowth and everything else.

The most of lanes are used as roads, especially in winter.

The lanes is the spot, where the forest guard counts the game

*) Mūsų Girios #5, 1957, Vilnius.

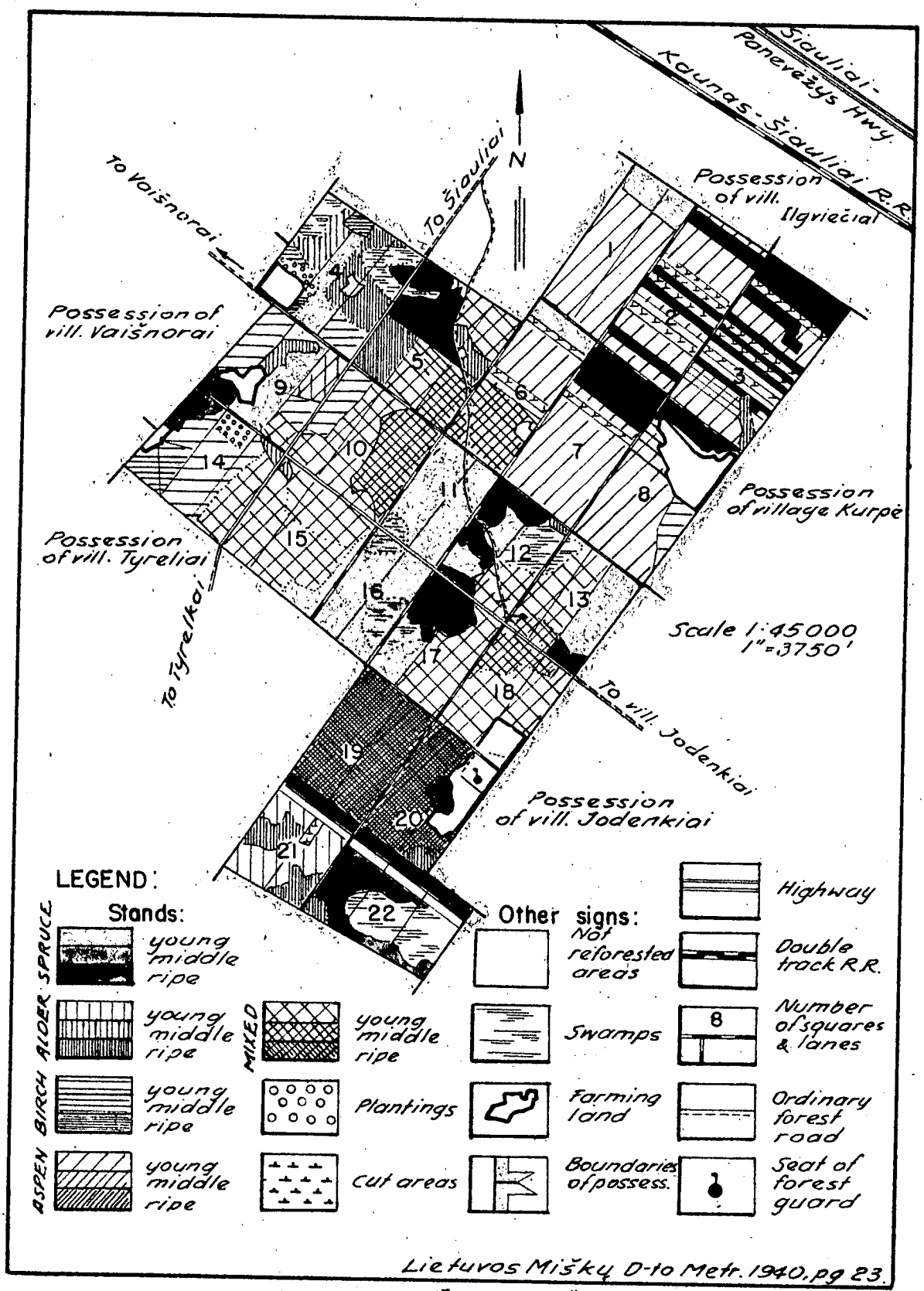
2. Las sosnowy pod wzgórzem Birutą, gdzie znaleziono *Linnaea borealis*
Forêt de pins sur la colline Biruta, station de *Linnaea borealis*.

c. The type of the ripe, fresh ~~moist~~ pine forest south ~~east~~ of Šventoji (Hryniewiecki 1912)

evidence in his ~~unit~~ range after new snow or long period of rain. (prints)
Unless the latest sources*) describe the forests around Sventoji as of 80 years old (almost ripe ones to be cut for wood production), they supposed to be overcut strongly as they overcut in all Soviet Lithuania. Especially this area was and is very poor on forests with the high demand on fuel and construction stuff. They should be chiefly young stands, dense and hard to pass thru.
Generally the picture of the all lithuanian forests is mosaic one. This means, that there are no large area of an even age of the individual formations. The ripe stand alternate with the middle aged, with young stands and with the large stripes of new seedings and plantings. To get a picture in this item is shown here(pg 33) the situation of the one forest in the western Lithuania 1930. About this shape had to have the forest around Šventoji also. There are indications that the forest along shores of Baltic sea are managed under military management.

~~gxxRixxxxxx~~ g. Rivers.
~~TNxXXXXXXXX~~
The main stream of the area is Šventoji*) It is 62.5 km long and flows from the Žalgiris Forst, located between Mošėdis and Gruš-laukis (see map east of Šventoji) The upper portion of Šventoji flows west. till it meets the its tributary Luknė. Here Šventoji turns south west. In the its length up to village of Butinge it makes the bor-der between Latvian and Lithuanain soviet republics. Than on the wway to the Baltic sea it makes few loops (meanders). The total declination

*) The informations put below are taken from the letter to the author from lithuanian prof. St. Kolupaila, now teaching in the University of Notre Dame in South Bend, Ind. He is an expert in lithuanian hydrology.



Lietuvos Mišky D-to Metr. 1940, pg 23.

10

STAND PLAN OF "ŠVENDRIAI" RANGE

Area 1287.7 ha.

(Forest master district Šiauliai. Survey 1930)

of it is 46 m. In the upper part of its bed on the length of 17.5 km. the declination is as high as 25 m.,or 0.00143;below Lukne the mean declination is 0.000565, and below farming estate of Butinge it drops to zero.

The bassin of the Sventoji (area included between watersheds of neighbor rivers) is as follows: in square kilometers:

The name of tributaries:	Area of the bassin up to the named tributaries	Bassin of tributaries	Total bassin area withthose of tributaries	Between tributaries
Lukně	89	32	121	16
ZAgupis	137	32	169	24
Juodupis	193	52	245	14
Kulše	259	34	294	36
Darba	329	128	457	55
Sea(inlet)	513			

The main debit in cubic metres per one second of Sventoji:

Name of tributaries	Up to the tributaries	With ributaries
Lukně	1.0	1.3
Żagupis	1.5	1.8
Juodupis	2.0	2.6
Kulše	2.8	3.1
Darba	3.5	4.7
Sea	5.2	

The main hydromodul 10.15 litres per one second from the one square kilometer.

The maximal debit 110 and the minimal one 0.6 cub. metres per one second.

Sventoji flows in a slightly wave line in a glacier valley.
It is fast flowing and has many stony rapids. The mean width of the stream is 15-25 m., The depth 0.5-1.0 m.

The lower part of the Sventoji flows among the dilluvial sands. During the often storms, the inlet of Šventoji usually is blocked by the sand banks. The water level in Šventoji there rises and after few days cuts the new bed-an outlet to the sea.

The width of the lower part of the Šventoji-its outlet- between Siba Loop(the loop closest to the sea) is up to 150 m. and here is close to the 2.0 m. of depth.

The bottom of the Šventoji in its upper part is sandy and in the lower one-muddy.(below Butinge farming estate)

The banks of the river are stip and 1 to 3 m high.They are grown up with the black alders(Alnus glutinosa) and willow bushes*)

The banks of the river in its lower part, below Butinge estate, are lower and also grown up with the same trees and bushes .

The muddy bottom and comparatively low velocity of the water in this part of river is allowing to grow to the stands of the rush grasses(Scirpus lacustris).

During the stormy weather when the wind is blowing from the sea, the sea water pours into Šventoji river, its level rises considerably and the water overfloods the wide areas of the peat bogs and even fields, situated around village of Šventoji.

Since 1923 till 1924 worked a water stand registration station in Butinge farming estate. Since 1925 (december) it works in the port of Šventoji.

*) see pictures in the Technika(attached here) 1933 . pg 173 &174

tojiFishery Port(1 km from the sea.)

In early thirties Šventoji river was drained . Its Sibas Loop (seem map pg.101) was connected directly with the sea. 700m (or nearly 2300 feet) north of its previously inlet to the Baltic sea. The new bed (channel) was dug out 60 m. wide and 1.0-1.5 m deep. *)

The extreme outlet of the new bed was subject to be blocked by the sand banks during the storms, especially from the SW. Latter on the direction of the new bed was directed not perpendicular to the shore but in the northern direction, as it is the cause in the naturaly forming outlets of the Baltic rivers (eastern). In orfer to keep the Fishery harbour off of the ice, there was builā later a dam(82 m. long)and lock(12 m. long). The river bed below dam and lock was excavated, quays were built and exit gates (inner and outer) constructed. (see below).

The often rains and storms(especially in autumn) make the level of the lower part of Šventoji river very changeable.Thus in the period of 1926 to the 1930**) the water level in the outlet of Šventoji river , compared with the sea level of Šventoji (also of Liepaya(Latvia) and Kronstadt (SSSR)) as follows:

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*) Technika 1933, pg 294,293, 283, 284, 285

Month	Maximal	Medium	minimal
January	+ 0.750	+ 0.262	+ 0.040
February	+ 0.438	+0.162	- 0.060
March	+ 0.620	+0.082	-0.164
April	+ 0.572	+ 0.113	-0.132
May	+ 0.414	+0.145	-0.048
June	+ 0.448	+0.238	+0.048
July	+ 0.732	+0.324	+0.136
August	+0 .660	+0.356	+0.152
Sept.	+ 0.738	+0.352	+0.072
Oct.	+1.058	+0.425	+0.140
Nov.	+ 0.966	+0.461	+0.126
Dec.	+ 0.662	+0.268	+0.034
Average	+0.672	+0.266	+0.089

The individual highest maximum was in this period noted on October 29 th, 1927 ,it was + 1.75 m.

According to the information of prof. St. Kolupaila,(1957) the maximal level of Šventoji 1927-1931 was + 1. 45 m. , minimal one -0.20 and a mean one + 0.36 m

The most of flods occure here chiefly in autumn, and summer not in spring, ~~whatxisxnormalx~~ as the other lithuanian river do.

The color of the water of Šventoji river is slightly brownish. It is easy to observe on the shallow sandy banks of its bottom. The color comes from the peaty swamps, which the river crosses.

The test of the water has no special marks. It is moreever clean , transparent and good for drinkink purposes, even for people. The water here is more clear and healthier compared with the

water used from the local wells(see chapter "Drainage") .Especially if water from Šventoji river is boiled, it is good for drinking.

The temperature of the water follows the temperature of the air, delaying considerably . As the other lithuanian rivers it obtains 60-62 °F in late summer.(see chapter about Tempereture below)*)

Darba, the left tributary of the Šventoji river is 28 km long*). The most elevated point is 26 m above the sea level.The declination is 105 cm per 1 km. The bassin is large as 115 sq. km. The debits are 1) mean debit 0.8 cub. m per 1 sec. , 2) maximal one 35 and 3) minimal one 0.1 cub.m per 1 sec.

p.8 Drainage.

The drainage , especially around port of Šventoji is bad. There are high precipitation (about 800 to 1000 mm annually), the surface of the coastal zone is poor developed and all zone along

*) Generally the temperature of the lithuanian rivers follows pretty close the monthly mean temper atures. So in april water has 44°F, may- -58, june 62°, july 66°, october 44° and in november 36 to 38°F.

The 50°F temperature(beginn of the vegetation) obtain the lithuanian rivers about 20 to 25 april. In autumn it is 1 to 7 October. The ice cover is usually 30 to 35 cm. thick (on the lakes up to 50 cm)and lasts 2-3 months. A. Basalykas. Lietuvos upės. 1956, pg61

**)Lietuvių Enciklopedija1956, vol 4, pg 305.

coast as deep as 40-50 km landward is literally wet thru. Especially wet is the area around Šventoji FIshery Port. Only tough frost eliminates the beinh wet.Unless the sandy soil allows the precipitations to go thru to the underground, the feeling to be wet remains here almost all year around.

The clay or loam lyers are here 1.8 -2.0 metres deep . They stop the comming water, which now looks for exit in all possible directions. The springs appear chiefly in the slopes of the Durba and Šventoji rivers, even on the beach.*) On the beach the springs attract the black alder trees and therefore are easy to find.

The underground water table is high. The wells , used by the population are shallow and in many cases the water is available even in the depth of 1.0 meter.to 2.0 m.Thus the well of Butinge Inn is only 1.6 m. deep. It is pretty clear and has no indications of metals of chlor or sulphur hydrates**). The well of the wind corn mill of Kugul (see map on the pg 2) is 1.54 m. deep. Noth of it there were found wells with the water table of 1.08 m. from the earth surface.(see here drawing on the pg. 40)~~and~~

Not all wells of this area deliver usefull water. In some wells water is so bad that it is not used by the owners. In short could be said that the most dangerous for the health of the people is the water from the wells around Šventoji. ***)The sawage of the domestic animals, kept in the sheds without of concrete or any floor, human excrements left directly on the earth, garbage stuff, carrions burried in the shallow soil infect the ground water easily .and can cause serious deseases.

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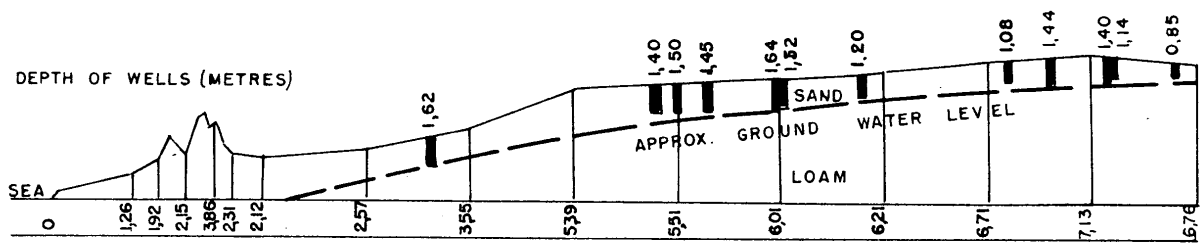
*) I.Končius & V. Ruokis Palangos kraštas 1926, pg84,85,86,98,99, 102,103. **)Same, pg 102. ***)Expirience of author.



TYPICAL CROSS-SECTION OF THE BALTIC COAST IN PALANGA

SCALES: VERTICAL 1"= 25'
HORIZONTAL 1"= 500'

I. KONČIUS AND V. RUOKIS. PALANGOS KRAŠTAS. 1926. KAUNAS.

9.. ~~XXXXXXXXXXXXXXXXXXXXXX~~ SEA AND ITS CLIMATE

The shore line is smooth and not cut out.

The beach (see above) is narrow and in stormy weather is subject to be overflooded entirely.

The depth of the territorial waters is low. The ~~XXXXXXXXXXXXXXXXXXXXXX~~ space between shore line and the contour line of 5 m. depth is wide and therefore some serious , bigger vessels avoid the waters of Šventoji.

The constitution of the bottom -see above.

The ebb and flood are very low. The highest amplitude is as high as 4 cm or about 1.5 ''.The changes of the sea level occure during stormy weather, especially winds blowing from SW. This SW wind pushes the sea water masses to the ~~XXXXXX~~ shores and thus rises its level. The sea table changes are given below: 1926-1930 *)

Months	Mean of the mean horizons	The mean of the maximal horizons	The mean of the minimal horizons
January	+0.0480	+0.266	-0.158
february	+0.0213	+0.256	-0.280
march	+0.0840	+0.274	-0.306
april	+0.0132	+0.330	-0.244
may	+0.0010	+0.210	-0.188
june	+0.0935	+0.308	-0.072
july	+0.1881	+0.466	+0.024
august	+0.2172	+0.472	+0.054
september	+0.1766	+0.480	-0.046
october	+0.2150	+0.800	+0.020
november	+0.2346	+0.676	-0.036
december	+0.1115	+0.504	-0.094

*) J.Šimoliūnas. Technika, 1933 pg 289.

Annual mean +0.697 +0.321 -0.110

The standard horizon of sea water table was accepted as high as in Liepaya (Latvia) and Kronstadt(USSR).

The absolete maximum(the highest one) observed in this period was on October 29, 1927 and was as high as +1.68 meters. That day the high water run over the sand dunes around the outlet of the Šventoji river and poored into river, causing seriuus damages.

The waves in this region are short ones. If the

height of the wave were marked H

the length L

The velocity of the waves V

the period between two waves T, so were the dates for the Baltic sea and Atlantic ocean as follows*)

	H_m	L_m	$V_{m/sec}$	$T_{sec.} = \frac{L}{V}$	$\frac{L}{H}$
Baltic Sea	4	42-70	7-10	6-10	10-17
Atlantic ocean	6	91	7.2	13	15
	6.6	100	8.1	12	15
	8	170	15	11	21
	6.71	582	45	13	86

The maximal heights of the waves are in the

Baltic Sea max. $H_{\bar{w}}$ 4 m.

North Sea 5 m.

Mediterrania 6-7

Gasconian pass 7.m

On the lithuanian coast of the Baltic sea the high waves are mostly 2-3 metres, 4 metres are rare.

The presure of the waves by the heights of the waves of 2m. is as high as 1 kg/ cm^2

3m is high as 1.5 kg/cm^2

4 m. 1.7 kg/cm^2 *)

The salinity of the water of the Baltic Sea is low. When in the Atlantic ocean it is around 3,7%, in Baltic sea it is:

in the area of Scagen, bottom	3-3.5 %
" " " surface	2.5%
Between Gdańsk(Danzig)Poland and Tallin(Estonia)	0.63-0.72
In the Botnia Bay	0.26.

The salinity of the water at Palanga and Šventoji on the surface is 0.661% **)

When the wind turns to blow from south, bringing to the Šventoji shore the fresh water of the Nemunas river, the salinity here drops considerably and the water can be used for drinking. When wind blows from the North, the salinity rises up to 0.79 % and some higher.

The anorganic drift is here the sand and the gravel (see above) The organic drift chiefly is the sea grass. It is drifted with the strong SW winds, especially in winter and spring. This grass represents the Fucacea alga, chiefly Fuscus vesiculosum species. This species can deliver iodine, which is represented among other minerals of its ash : Thus the ash of Fuscus vesiculorum contains on

nitrates	2.90%
iodine	0.31%
kali phosphates	1.14%
other minerals	24.66%.

The drifted masses of this Fuscus are sometimes very considerably

*)Technika 1933 ,pg 214.215

**)K.Pakštas Baltijos jūra 1934,pg16,17

and are picked up by the native populations as fertilizer. (see,pg45) Once was also projected*) by one ambitious businessmen to product the iodine of them, but the project failed and was not fullfilled, unless it was real project.

In 1940 , when the first communist occupation begun in Lithuania, a special mission of the russian profesionals visited the country and interesbed very much about production of iodine, as much as many other fishery problems. It was nothing done in this field till 1944 summer.

Along with the grass drift there are drifted shaedy

a. Dead fishes or sick ones. The sea gulls (2-3 on a kilometer of the sea shore) clean them and the Baltic shore here is clean.

b. Some pieces of rounded peat, brought by the ice from the delta of Nemunas river, and some wood.

c. Only precious stone ,won in Lithuania is the amber, brought with the sea grass, as drift, to the Baltic shores. The amber made Lithuanians name popular in very ancient times. It went to the Bysantium and Orient as stuff for ornaments and as stuff to the church censers.

There are produced many minor items of amber in Lithuania: cigarette holders, buttons, broshes a.s.o. Most of drifted amber appearsin small pieces, big pieces are rare. In Palanga , before the warI, was a amber ornament production shop with annualy turnover of some 200 000 rubles.Here the raw material was imported from Germany, where the amber was won in the sand pits on the Baltic shore, in the area of Koenigsberg. In the period of 1918-1944 there were just very small enterprises, which worked up the native amber.

*)I.Končius. Palangos Kraštas1926, pgll5

36 pav. Kraunasi jūros dovaną „kerpes“ laukams tręšti.

ja Curonian fishermen loading the sea grass.

The windy, waving sea makes a characteristic husky noise, which is heard in a distance of 300 to 500 metres from the sea.

The color of the sea water on the surface grayish-greenish blue. The water is perfectly transparent and clear. Plancton is not abundant. Test of sea water is like of fresh water and it can be used by the people for drinking purposes.

The temperature of the sea water follows the air temperatures with considerable delay. Lower as the air temperature is themperature of sea water in summer and spring, higher in winter and autumn. The highest temperatures of sea water were observed in the period of 1918-1926 at the end of ~~xxxxxxx~~ month of august it was 64°F. Usually at that time is the temperature as high as 60°F. It drops continuously with the depth.Thus in Baltic island of Helgoland were noted (1893)such decreases of the temperatures going down with the depth: (Celsius grades of temperature) *)

	0 m. deep	1.0 m.	10.0m.	15.0	20.0	30.0
Fehmarnbelt	17.6	17.6	17.6	14.9	9.3	8.5
Hogland	15.7	15.3	15.1	6.5	0.5	0.5

Practically to the depth of 10-12 metres,where the waving is active, no considerably changes of the temperatures. The essential drpp of the temperatures takes place below this depth.

When the E wind is blowin, which drives the surface water away from the coastal zone, temperature of the water in summer (especially in the morning) can drop to 57-58°F. If the western winds are blowing, the temperature of the sea water around Šventoji is ~~couple~~ few degrees higher as it is on the coasts of Sweden.

In winter is the water temperature on the surface at Liepaya (Latvia) +0.3 °C, at Ventspils (Vindava) also Latvia, + 0.7°C/

*)K.Pakštas Baltijos jura. 1934.pg 23

In winter , when the low temperature of the air is set for longer period, the sea water freezes to ice, which forms a narrow stripe along the coast. It is few cm tick. The ice cover keeps staying til the sea is quiet and the air temperature is considerably low. The ice cover extends seaward from 200 to 2000 m. wide. Usually is this ice cover not long living.

In 1898*) ice like this covered the sea few kilometers and was pretty plain. It was broken by the waving sea after ~~couple~~ few days.

In 1809 russian army marched over the ice of the Baltic sea to Sweden**).

In1928-1929 was frozen all the Riga Bay and the ice cover on the Daugava river in its outlet,remained till april 23 rd.

That winter the navigation was interrupted in Riga (Latvia) 42 days, in the Kolkas Rags 34, Ventspils 20days.

In liepaya the large blocks of the ice were still available till 16 th of may.

Generally the ice formations on the sea cost were noted on the eastern Baltic coast:***)

Vipuri	(Finnland)	167 days
Tallin	(Estonia)	90 ""
Bay of Riga	(Latvia)	30 "
Ventpils	"	13
Liepaya	"	13
Klaipeda	(Lithuania)	12

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*)I.Končius. Palangos Kraštas, 1926, pg 23

**)K.Pakštas. Baltijos Jūra 1934, pg 29

***) Same.

The ice breackers easily break it down in Ventspils, Liepaya and in all sea ports south of them, they all are considered as ice free all year around.

The wind interrups the ice formation , especially in wide stripes In the winters along the coast are swiming pieces up to and 30 cm thick lyers of grind ice, which looks like thin porridge. If the sea is quiet, and the air is cold enough,so is than forming a lyer of real ice. The ice porridge helps in this case to water to freeze.

In early winter , middle of december, sometimes up to middle of january along the coast is drifted the bottom ice, formed of overcooled water on the bottom of the sea and Nemunas river.*) This type of ice forms sometimes solid blocks and takes large pieces. The pieces of such one ice carry with them much mud , stones and other ingradients. They drop to the bottom of sea if the ice melted down.

This type of ice is harmless for biger vessels, but the small boats of native fishers it keeps at home. (see pg 49)

In Šventoji harbour the sea freezes every on year, but the ice is usually thin and easy to break with a n icebreaker.Just in 1928-1929 hard winter at air temperature of 0°F the ice cover of the Šventoji harbour and along the coast was thick as 20 inches (50 cm). **)

The currents off the coasts at Šventoji were not studyed, at least they were not available for the author, but one remarkable note should be put down that the in East Prussia and coming fron the

*) K.Pakštas. Baltijos Jura,1934,pg 27.

**) J. Šimoliunas. Šventosios uostas 1933, Technika, pg.

Ledai jūroj prie Palangos

3 Drifting ice blocks and fields near Palanga.

shores around Klaipeda drown bodies of people and animals, are chiefly landing at Šventoji.

10. CLIMATE OF THE CONTINENT (COASTAL ZONE)

a. Lithuanian climate in short.

The climate of the sea(see above*) is quite different from the air climate and the climate of the narrow spripe on the Baltic coast is different from the climate of the continent.

Theclimate here is a marine one , which take place just about 10 km. deep 9 figuring from the coast to the continent. Its influence is to Observe even deeper, up to 50 km. landward.

Republic of Lithuania is located on the edge of marine and continental climates and is subject to sudden and sharp ~~xxxxxxx~~ weather changes. Thus the antlantic cyclons, comming from west bring with them cloudness and rains. The invading anticyclons push the mild weather of the cylons and establish dry hot or cold weathe, according to the season.Thue the climate of Lithuania is movable and labil.

The amount of the annual ~~xxx~~ sun radiation in average 80-90 big calories per 1 sq. cm. In Palanga, sun radiation delivers 93 big calories per one year, and in Vilnius(Wilno) -84.

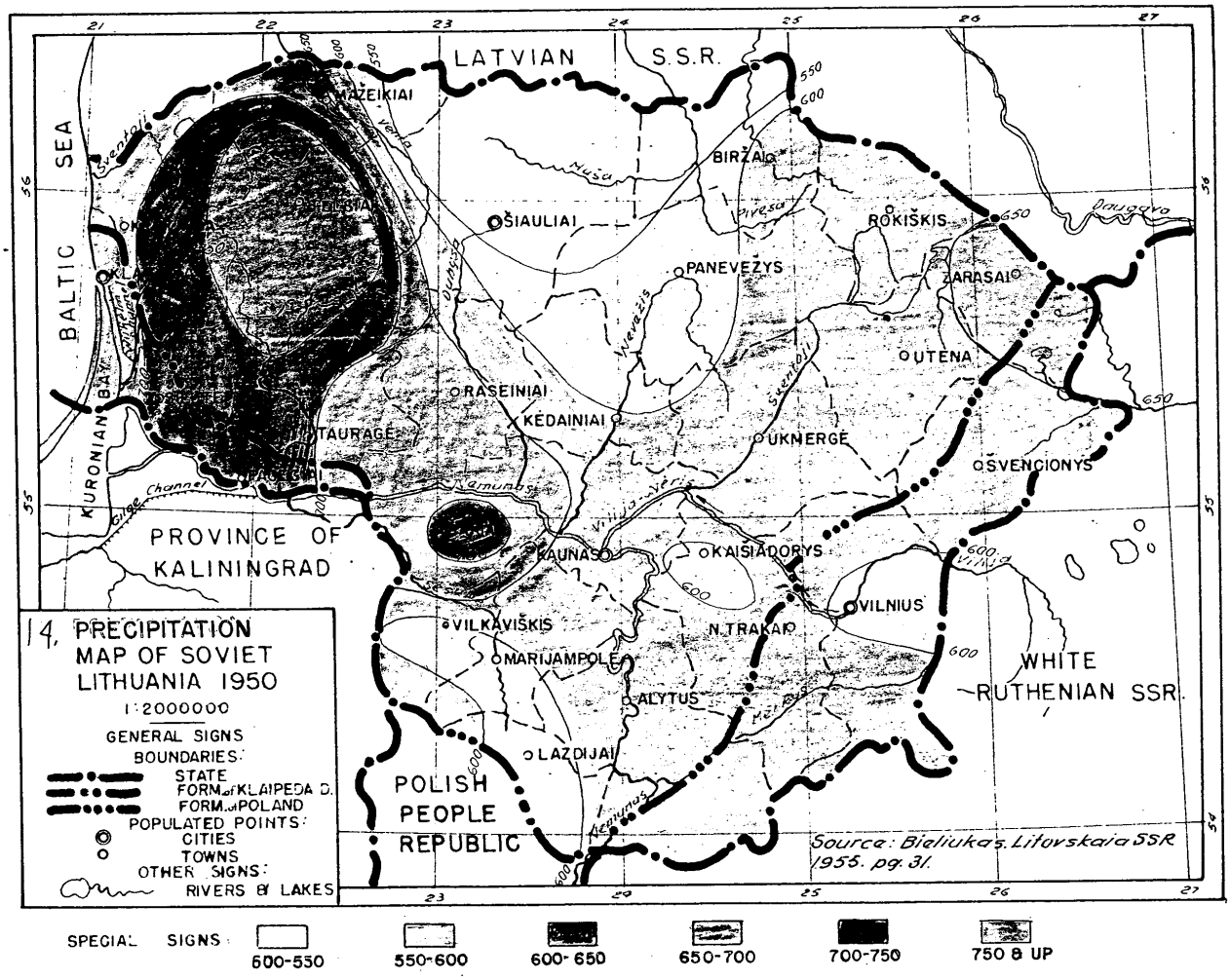
The annual mean temperature in Lithuania is $+6^{0}C$ with a variation of $1.3^{o}C$.

The annual amplitude of the temperature in Klaipeda(35 km south of Šventoji) $19.6^{o}C$, in Kaunas 22.5 and in Vilnius $23.2^{o}C$.

The maximum on precipitations are noted for Kaltinenai(see drawing on the pg. 51 here). located on the SW slopes of the samogitian

*) K. Bieliukas. Litovskaya SSR.1955 29-36.

**) Palanga, a resort with -- 2500 inhab. since 1918 has a meteorog. station. It is located 12 km soth of Šventoji.



upland around Telšiai. They make more as 800 mm per anno. The minimum is noted in Kuršėnai, on the same upland ,just located on the lee side of it(500 mm).

In Šventoji and Palanga the precipitations are close to those of the KlaipedaIn individual years there falls even 1000 and more . Here the maximum on precipitation falls in october and november.

The intensity of the precipitations in Palanga show following table*)

Month	Year	Precipitations in mm.
August	1923	131.8
october	"	128.5
november	"	105.3
june	"	82.8
april	"	81.9
july	"	67.5
September	"	63.1
may	"	43.8
january	1924	17.5
February	"	13.7
march	1923	8.8
		810.7

The evaporation in Šventoji is over 450 mm. , or more than 56 %%**)

*) I. Končius and V. Ruokis Palangos Kraštas 1926. pg 68.

**) A. Basalykas. Lietuvos upės 1956.,pg. 48

In the period of 1931-1940*) the mean temperatures in Palanga were:

January	- 3.5°C
July	+ 17.4°C
Annual	+ 6.7° C

The mean temperature of march in Klaipeda is 2.3°C lower as in september -october. In Kaunas and Vilnius this difference is just 0.6° C.

b. Winter.

In this season are moving from Atlantic warm and moist air masses. In that time prevailing winds are: S and SW. They air masses show positive temperatures and cause the thaws, which last usually few days, fogs and complete cloudness.

The velocity of the winds in winter is higher as in summer, but not exceeds this of 5 m per second.

In Palanga and in Šventoji the winds are stronger. The 15 m. per sec. winds are rare and occure in winter 3-4 time a month.

The characteristic picture of the Lithuanian winter is :cloudy weather. The clouds are low and dark. Frost around - 3° to -5°C , often thaws, rainy and snowy weather. This situation is often interrupted by the invasions of cold continental air masses even of argtic ones. In this case low temperatures and fair sky, windless weather sets for week or more, with the lowest temperatures in the winter. There were noted temperatures as low as -40°C (40°F below zero)

*) Musteikis, Lietuvos Žemės Ūkio Statistika 1948, Part II, pg 14

Generally the temperatures below -30°C are rare in Lithuania in winter.

The warm winters, which are not rare in this country, there is little snow and sometimes no one, the temperature stays around 0°C (32°F) as result of comming atlantic air masses. Sometimes in January is to observe a temperature of +8°C. It is result of break thru of the tropic air masses. They are rare.

The snow cover lasts on the shores of the Baltic in average 49 days less as it is habit for the all country. Thus in Klaipeda in 1847-1890 *) the first noted snow was 4 th of september, the last one on 27 th of April. with a space of 176 days. Usually in Klaipeda the first snow appears in november and desappears in the first days of april.

In average are in Lithuania 35-70 day with snowing.

The lyer of snow usually is 10-15 cm, but sometimes it is about 50 cm. There are snowless winters also.

The snow remains as long as the thaw weather is invading. In Šventoji it remains only for very short time.

Freezing line in the ground lies in winters usually 0.8 m. deep. It desappears early in april here and in Lithuania lasts even to the may sometimes.

c. Spring

The spring sets in a connection with the an inva sion of warm atlantic air masses, bringing with them high cloudness. Since march the

*) K. Pakštas. Lietuvos Klimatas 1926, 53-55

cloudness goes down , but the precipitations increase, because of storms. The mean temperatures negative in march goes over to the positives in may. The vegetation period in Šventoji-Palanga is longer as in the all country. Thus it beginns, ends and lasts in

	mean of beginning	mean of the end	Duration days
Klaipeda	4-12	10-31	201
Kaunas	4-10	10-25	197
Vilnius	4.11	10-24	195
Zarasai	4.16	10-20	186

The weather in spring is very changable. The warm air masses can cuddenly cool down considerebly , causing late frosts. Sometimes late frosts occure in first decade of June. The marine influens lessens this dangers to the vegetation.

d. Summer. Summer is in Lithuania a moderate one. The most warm month is the July with its mean temperature of + 17.2°C. In the coastal area the summer is cooler as one on the continent. Here the sun radiation is hindered by the dense cloudness. of cyclon air masses. The most warm summer shows maximal day temperature of +30° C, even + 35° C.(+95 oF.). Such summer are usually under influence of tropic air.

When in summer comes the atlantic air -so occurs the cooling up and often storms. In average there are about 20 stormy days in Lithuania. In winter are the storms very rare. The most of storms occure (90%) in may-september.

The maximum on precipitation in Lithuania in august, but around Šventoji in october-november. In the period of april-october falls in Klaipeda 63% of all annyaly precipitation,

Kaunas 71.5 and in

Vilnius 72.5 " "

The maximal individual precipitatiov in Lithuania was noted in 1950 on August 21 st,in Ukmerge-there was 156.1 mm.

The typical summer weather in Šventoji is this one:

At a fair sky day suddenly appears small rain cloud in the west or Sw., pors its rain under thunder down over the area in a very short time and disappears over the contenent. Again is fair and again comes same small cloud with a thunderstorm and short rain an so on.sometimes many times a day.

As a illustration here is the picture of a typical summer day in 1922 (rainy yae with 25% of fair days):

Early in the morning-fair

10 h a.m. rain.

After noon fair.

Evening-sun goes down into densy dark clouds

Night-moon sometime visible thru the clouds. Rain.

At noons chiefly blowing NNE wind.

In summer are to observe the most quiet weather and the winds with the minimal velocity.

In the cold summers the cold air masses from Scandinavia come over Lithuania from S and SE and causes even in July at night temperatures of freezing($0^{o}C$).

The autumn.

In this season cloudness increases an air cools up. The differencies of pemperatures of the continent and on the coastal zone are low. Characteristic are here the long lasting showers. In Šventoji takes place the maximum on precipitation(october-november). In september (end) and october(beginning) comes from S a dry and warm weather.

It lasts few days, sometimes few weeks and there is fair, quiet and warm weather.

At end of november the mean month temperature drops below 0°C and the winter beginns.

In winter and autumn the weater is most stormly.

Droughts are practically not occuring in Lithuania. A period of solid 23 dry days occure once a 20 years.

For Klaipeda in a period of 1914-1923 the cloudness (mean) was

8 a.m 7,39

2 p.m.7.17

8 pm.7.15

The data for Klaipeda of 1914 -1923 shows a table on the pg 58 here, taken from the work of I.Končius and V. Ruokis Palangos Kraštas 1926, pg 82.

mean data of previous years for Klaipeda [J. Končius & V. Ruokis. Palangos kraštas, 1926, pg. 82).

months	air pressure at 0°C, 45° of latitude, when H = 9.6 above sea level	Temperature in C°				Pressure of water evaporation in mm			Relative humidity in % of %			Precipitation in mm.		
		8 am	2 pm.	8 pm	mean	8 am	2 pm	8 pm	8 am	2 pm	8 pm	8 am	2 pm	8 pm.
1	757.71	-2.40	-1.45	-2.21	-2.02	3.62	3.77	3.67	85.74	85.29	86.30	38.31	41.11	79.48
2	761.51	-3.36	-1.11	-2.25	-2.24	2.78	3.74	3.60	82.88	83.36	86.15	20.52	23.87	44.39
3	759.68	-1.10	+2.34	+0.04	+0.40	3.75	4.24	4.01	84.38	76.42	83.56	25.24	18.23	43.47
4	759.45	+5.46	+9.49	+6.17	+7.04	5.48	5.79	5.73	80.42	67.02	79.49	19.40	21.99	41.39
5	762.49	+11.43	+14.79	+10.79	+12.34	6.81	6.96	6.83	67.07	56.25	69.97	20.36	14.74	35.10
6	759.24	+15.22	+17.73	+14.27	+15.74	8.93	8.97	8.78	69.25	60.69	73.36	23.06	23.45	46.51
7	758.58	+18.08	+20.88	+17.38	+18.58	11.33	11.59	11.37	73.59	64.11	77.27	30.30	37.24	67.54
8	758.27	+16.25	+19.60	+15.95	+17.27	10.73	11.14	10.86	78.13	66.38	79.96	50.18	34.68	84.86
9	759.54	+12.43	+15.97	+12.73	+13.71	8.92	+9.34	+9.00	81.18	70.46	80.78	44.97	45.23	90.20
10	761.83	+6.58	+9.56	+7.32	+7.82	6.47	6.92	6.75	85.51	75.64	84.39	41.71	39.24	80.95
11	760.85	+1.68	+2.96	+1.95	+2.19	4.73	4.51	4.83	85.46	83.81	86.49	38.09	31.81	69.80
12	757.65	-1.21	-0.6	-1.17	-0.99	3.93	4.04	3.93	86.68	86.44	87.02	50.40	39.38	89.78
average for 10 years	759.7	+6.6	+9.1	+6.7	+7.5	6.5	6.7	6.6	80.00	73.00	81.20	40.26	37.10	77.36

g. The wind.

The velocity, power and directions of winds depend on the factors , forming the Lithuanian climate as the maximum of Asores and the minimums of the Iceland *)

The most powerfull winds occure on the shore of The Baltic.Moving toward land, they going to be deformed as much in powed as in the direction also.

The quiet weather is to observe in the coastal zone around Šventoji jus 2%% of the year , Vilnius- 25 and 38% in summere there.

The velocity of the winds in

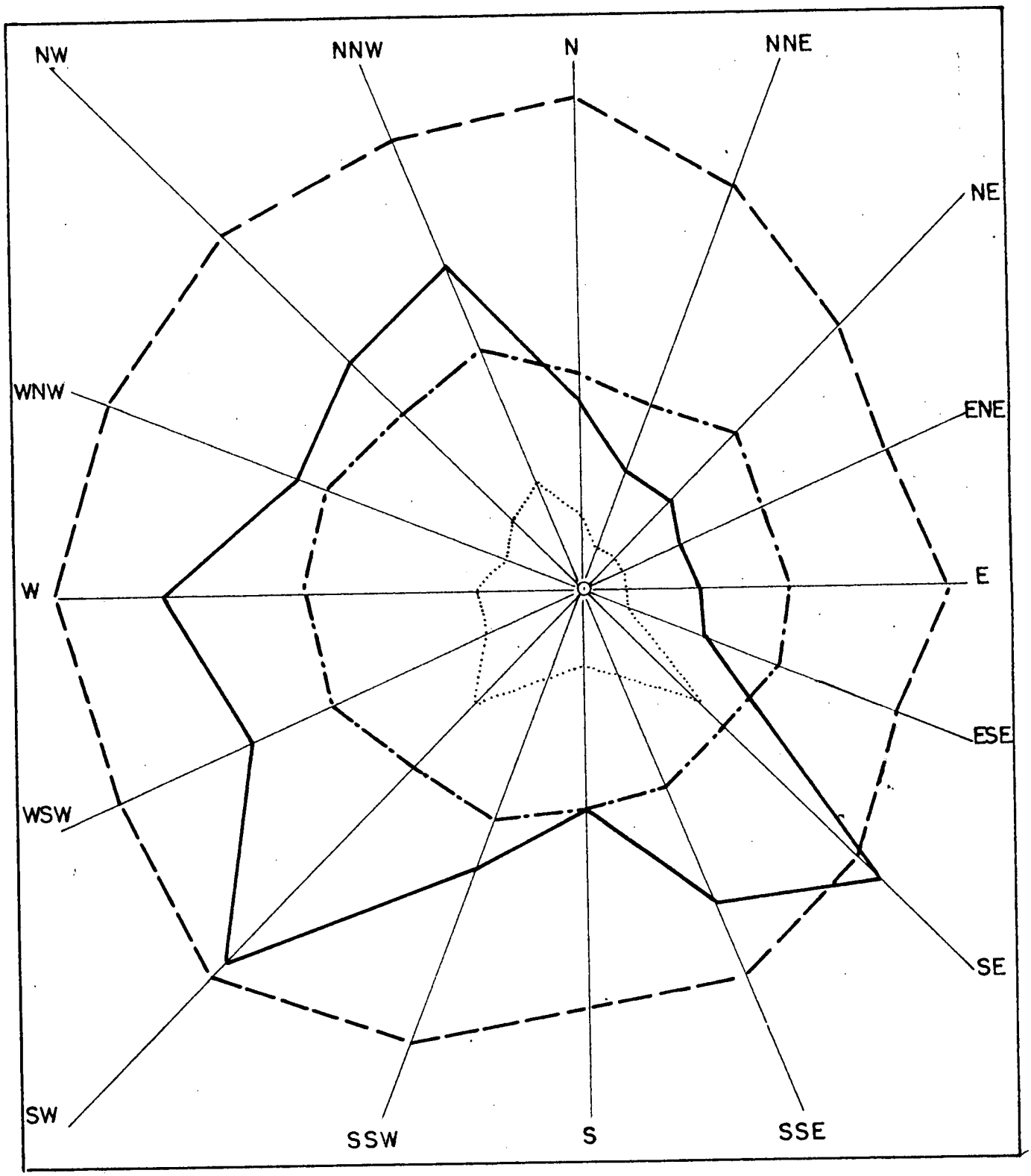
Klaipeda (1819-1894)	5.5 m/sec.
Riga(Latvia)	2.8 "
Vilnius (Sov. Lithuania)	1.8 "

Generally in winter forms an high over central Asia. The masses of cold air flow SW , W and NW. This way they come and cross lithuanian territory, causing high barometric presure. Thus in January the mean barom. presure is 763 mm and the izobares run meridionally (see map on the pg. 60 here) and the winds blow from SW (see map on the pg 61 and 62 here).

In summer establishes an other high . This time over Atlantic ocean , which drives the air masses in a NE direction.The july isobares in Lithuania run in SE direction and the winds blow same direction. (see map)62 pg).

In spring and autumn behaves the lithuanian climate like a continental one.

*) K.Pakštas, Lietuvos Klimatas 1926, pg 34

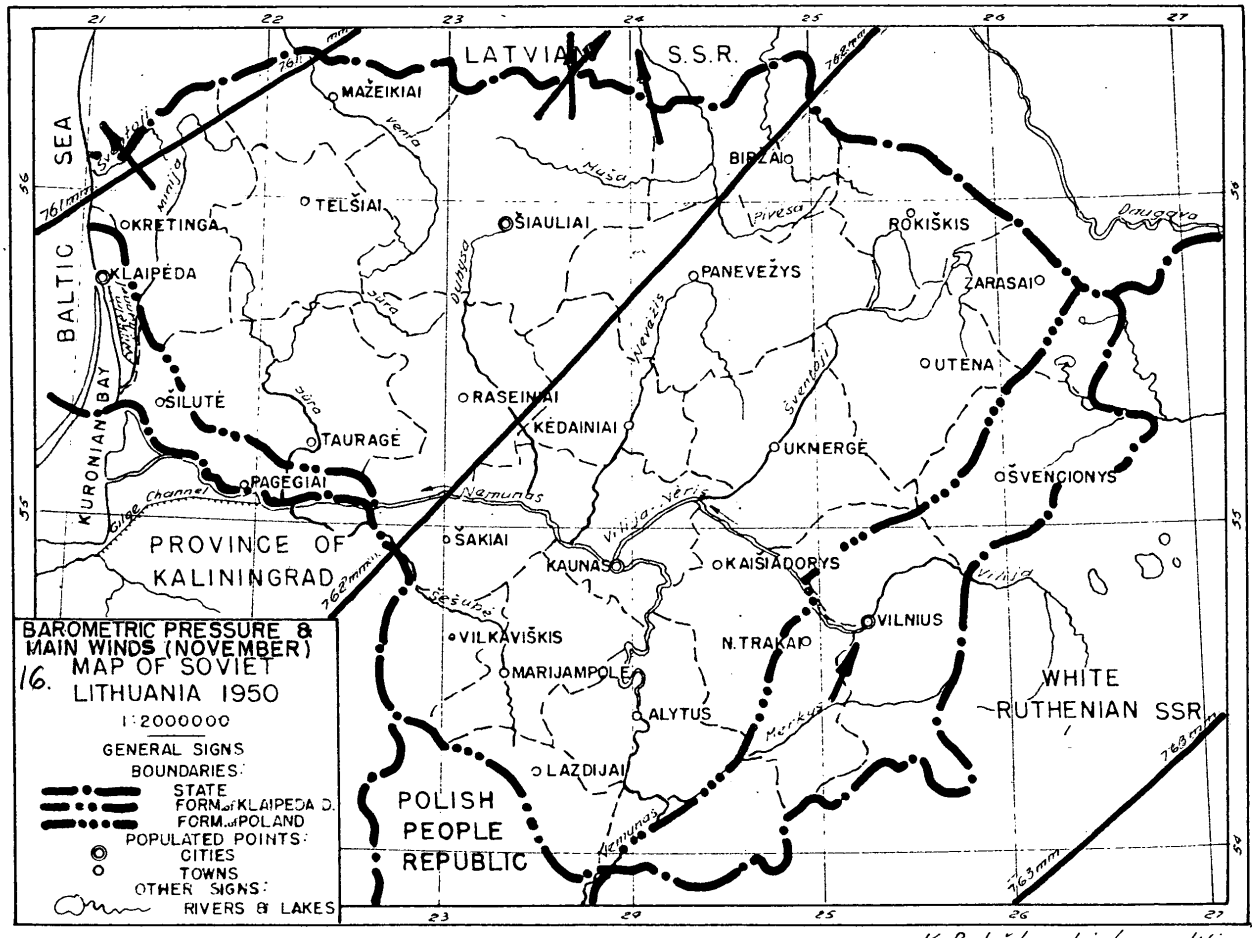


15. FREQUENCY, VELOCITIES AND STRENGTH OF WINDS IN ŠVENTOJI FOR A PERIOD OF 1926 - 1930

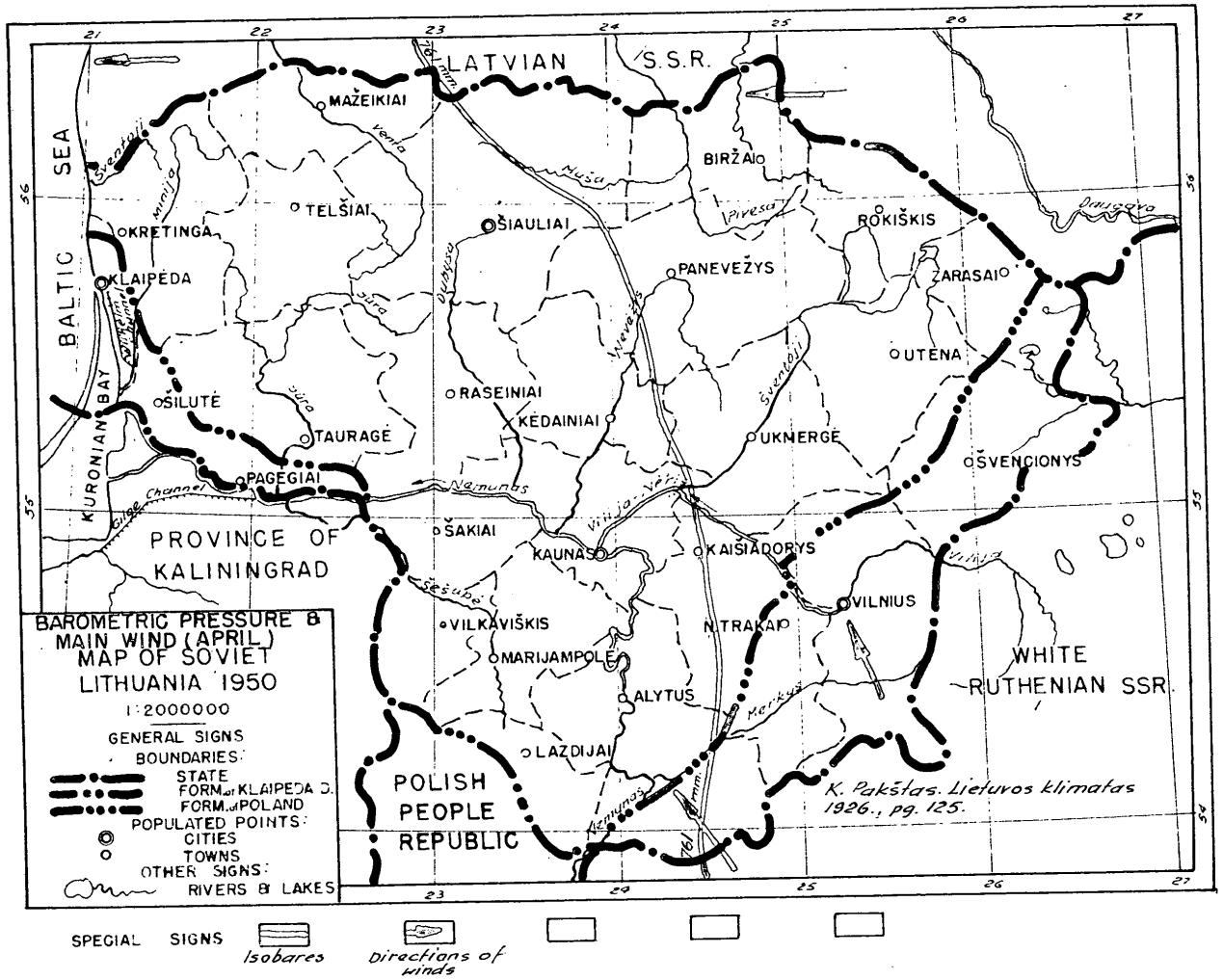
SCALES: 100 0 100 200 300 FOR STRONGNESS & FREQUENCY
5 0 5 10 15 FOR VELOCITIES

KEY : — — — — MAXIM. VELOCITY M/SEC ; — · — · — MEAN VELOCITY M/SEC. ;
——— STRENGTH — BEAUFORT SCALE ; ····· FREQUENCY (TIMES)

SOURCE: TECHNICA 1933, PG. 279



K. Pakštas. Lietuvos klimatas. 1926. pg 126.



The most powerfull winds appears in november, in the period of the establishement of cyclones over the country. In Klaipeda the mean velocity of the winds in

october-january	is	6.3 m/sec.
may -august	"	4.9 "

The destribution of the winds is shown on the drawing on the pg 60.

In Palanga-Šventoji*) 1925:

January prevailing E.
morning E&S (8 h. a.m)
noon N (2 p.m.)
night SE. (8 p.m.)

February prevailing strongE E.

March morning chiefly W, than S and NW.
noon N
night ~~XXXXXXXXXX~~ E & NE

April morning W,NW,N & E
noon E
night N,NW,W & E

May Morning W & E
noon W & S
night W

June morning W,SW,E
noon W, S
night W

July morn. NW,W,N, NE
noon SW,W,N
night W,SW

August morn slight S,W and some stronger NW
noon W,SW.
night W,SW

September morn.W,SW,SE
noon SW,W,NW
night W,SW

October all over W, some SW &S

November morn. SW
noon W & S
night W,SW, S

December allover SE,S And sometimes W.

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*) I.Končius and V, Ruokis Palangos Kraštas 1926 , pg 64. The directions of the winds shown here mean the direction from which the wind blows. If it is written E wind, so means it that the wind comming from the East and blowing to West. Author.

95

The strogest winds are noted at noon in Klaipeda in the period of the 1914-1923: *)

8 h a.m 2.94 balls on Beaufor scale

2 h p.m 3.31

8 h p.m 2.49.

The local winds on the Baltic coast are blowing:im summer:
in the morning slight winds toward sea
at noon blowing from the sea,
nights no local winds.

The ~~skxrxxx~~ most violent storms occure in autumn, than in winter and at least in summer. The storms come in winter from W and SW. In summer fromW.

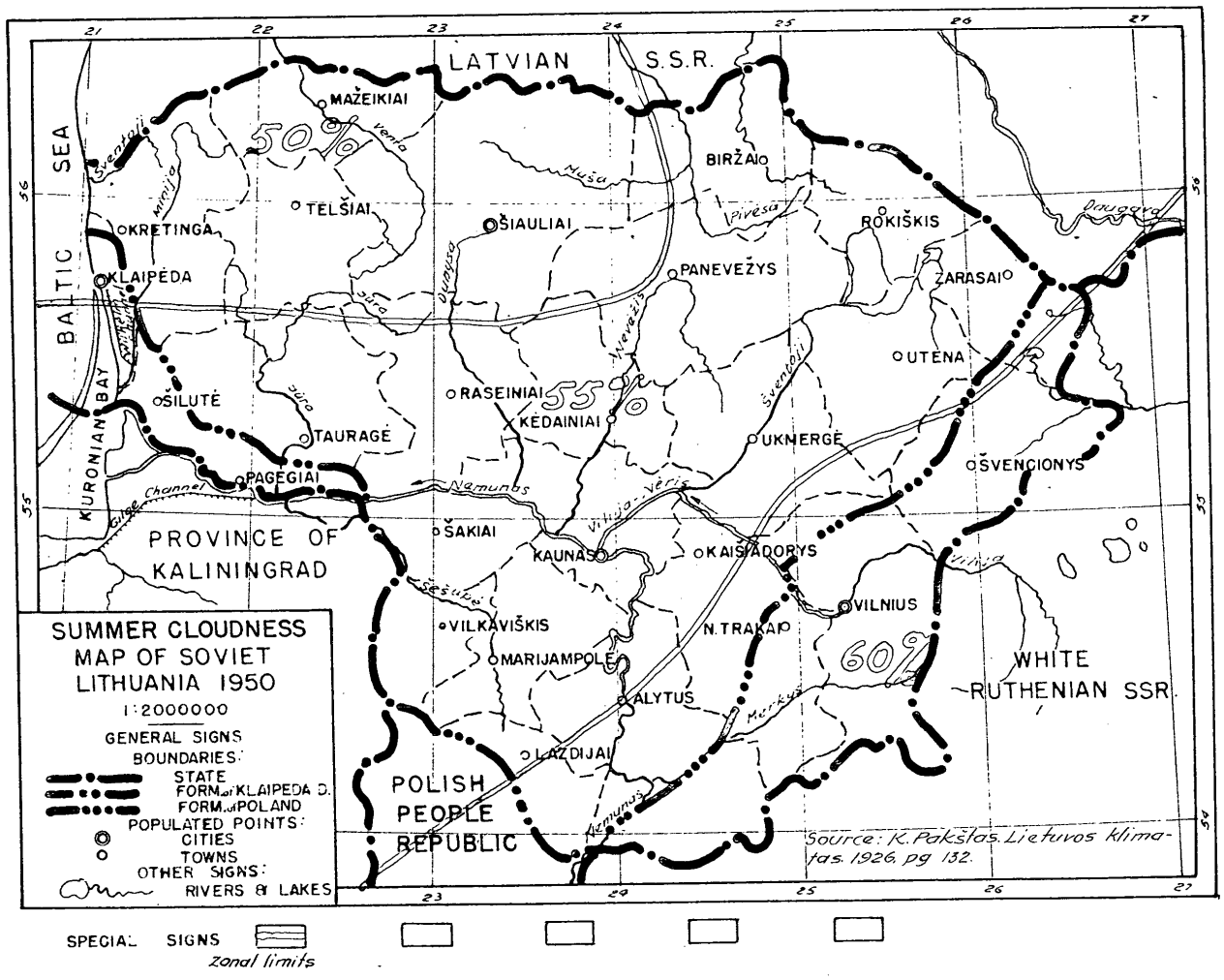
The thunder storms are usual in Lithuania and occure in summer at hot days. They bring with them much rain and thunder. The most of them are to observe in July-august.(67%%)

The tornados are rare. They form themselves just in summer on extremelly hot days. They are of local ~~xxpxxrkx~~ significance and usually moving in a narrow spripes of few kilometers.They arise and disappear very suddenly. The most of tornados occure on the costal zone and in the western part of the country.

h. Cloudness and the visibility of the air

The schemes on the pg 65 and 66 here give a general picture over the cloudness situation in Lithuania.Some details specially for Šventoji put here belowThere are data from Koenigsberg for 35 years and

*) I.Končius & V.Ruokis Palangos kraštas, 1926, pg 81



SUMMER CLOUDNESS MAP OF SOVIET LITHUANIA 1950

1:2000000

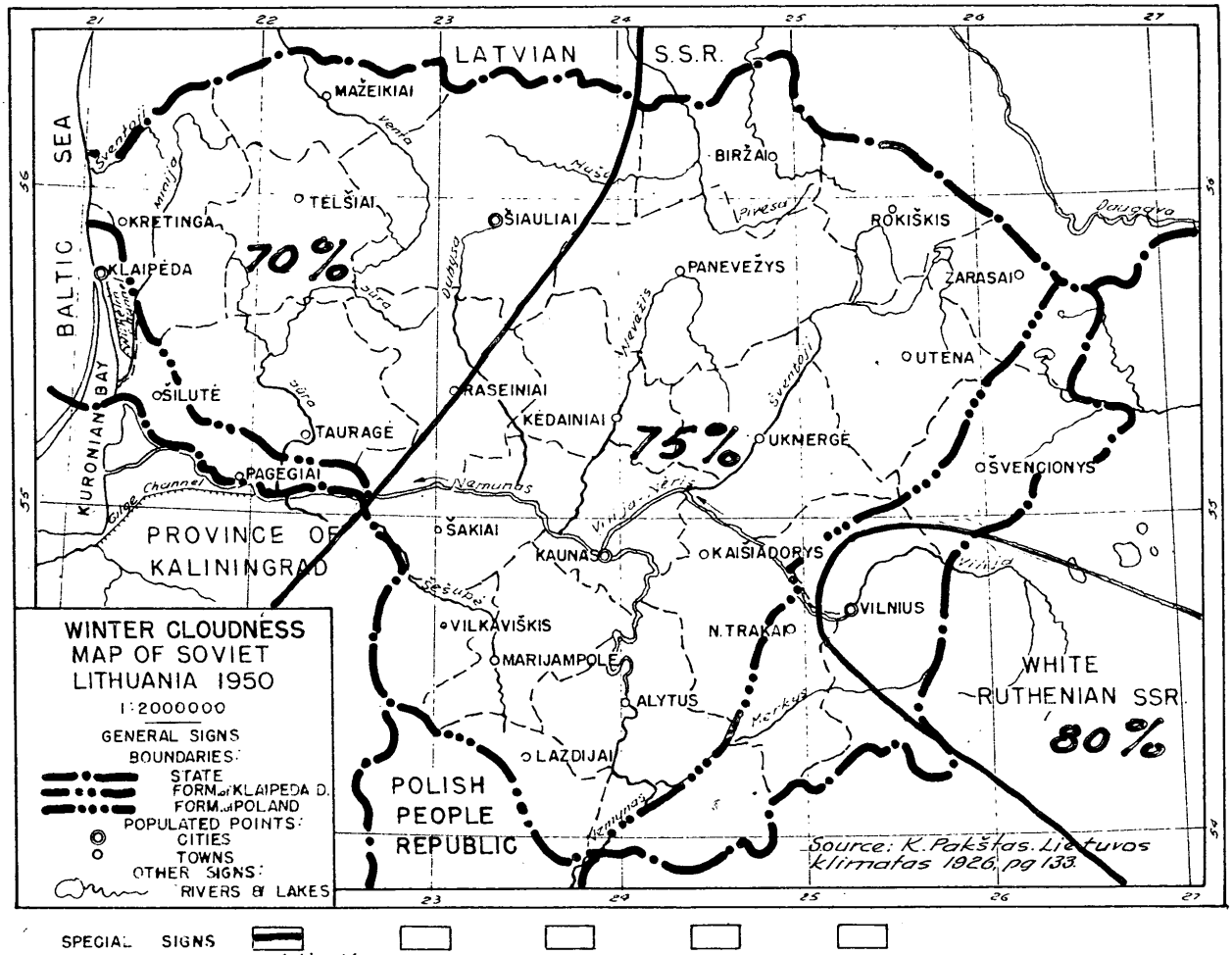
GENERAL SIGNS

BOUNDARIES:
- STATE
- FORM. of KLAIPEDA D.
- FORM. of POLAND

POPULATED POINTS:
- CITIES
- TOWNS

OTHER SIGNS:
- RIVERS & LAKES

SPECIAL SIGNS
- zonal limits



and Liepaya for 30 years*) The Šventoji is located inbetween.

The both dabas is very close related and therefore could be applied under an interpolation for the situation in Šventoji also.

Meteorol stations	Months												
	1	2	3	4	5	6	7	8	9	10	11	12	Annual
Koenigsberg Eastern Prussia	7.7	7.2	6.7	5.9	5.2	5.1	5.3	5.7	5.6	6.7	7.9	8.0	6.4
Liepaya Latvia	7.8	7.1	6.6	5.7	4.9	4.6	5.0	5.2	5.6	7.0	7.7	8.0	6.3

The visibility and the transparency of theair in the coastal zone if no fog and rain-good one. There is no smoke or dust avilable in the air.

The sand , smoking from the dunes in dry and windy weather is without a significance, because in raises not ~~bhah~~ high (not over 10 m.) and carried not far (few hundred metres)

10.

i. Roads.

There are 5 types of roads available around Šventoji.

1 paved highway,2 public gravelled roads, 3 field or dirt roads

4 narrow gauge rail road (Darbenai-Laukžeme -Šventoji, and

5 in 1938 started to build a normal gauge rail road Darbėnai-Šventoji.

The best developed roads run from N to S. There are the most important ~~and best roads. The roads in~~ the W*E direction are few, most of

*) K.Pakštas, Lietuvos Klimatas, 1926, pg 61.

them are poor field or dirt roads.

The paralel to the coast line striped structure of the earth surface allowed to build the most important sring of the paved higway. It was built by the russian czarist gouvernment and served for russians as a important transit way from Riga to Klaipeda. It was till 1944 entirely of old fashioned russian Mac -adam paved road, which cross-section is shown on the pg 69 here.It runs about 3.5 km. east from the shore , parallel to it. It is practically plain.

It was build before world war I and fitted to the requirements of that time. It was computed to the haevy artilery of the war I, but not for the purposes of the present wars. Usualy in spring, on the beginning of april, when the frost disappears from the frozen earth, it was not passable for haevy trucks even of 5 metric tons weight. Chiefly it served for the purposes of local trafic since world war II, and was used by the horse driven cars of the native populations.In the war II this highway was almost untouched by the rolling german armies and was thus saved. But in the 1944, when the russians come back, especially with haevy armored tanks, almost all lithuanian highways of type described and shown here were destroyed, especially on the turnpoints. and curves.Communist gouvernment, receiving large area of Baltic states and Germany has to take care of new roads. Thus till now the most important highways in Lithuania, running N-S(Transit highways to Germany) were rebuilt and reinforced. It was rebuilt and reinforced and bituminou noused the Liepaya-Klaipeda highway, running thru thearea of Šventoji

*) There was no data over the new system of soviet russian roads and highways , applied in Lithuania, but it should be thought that it

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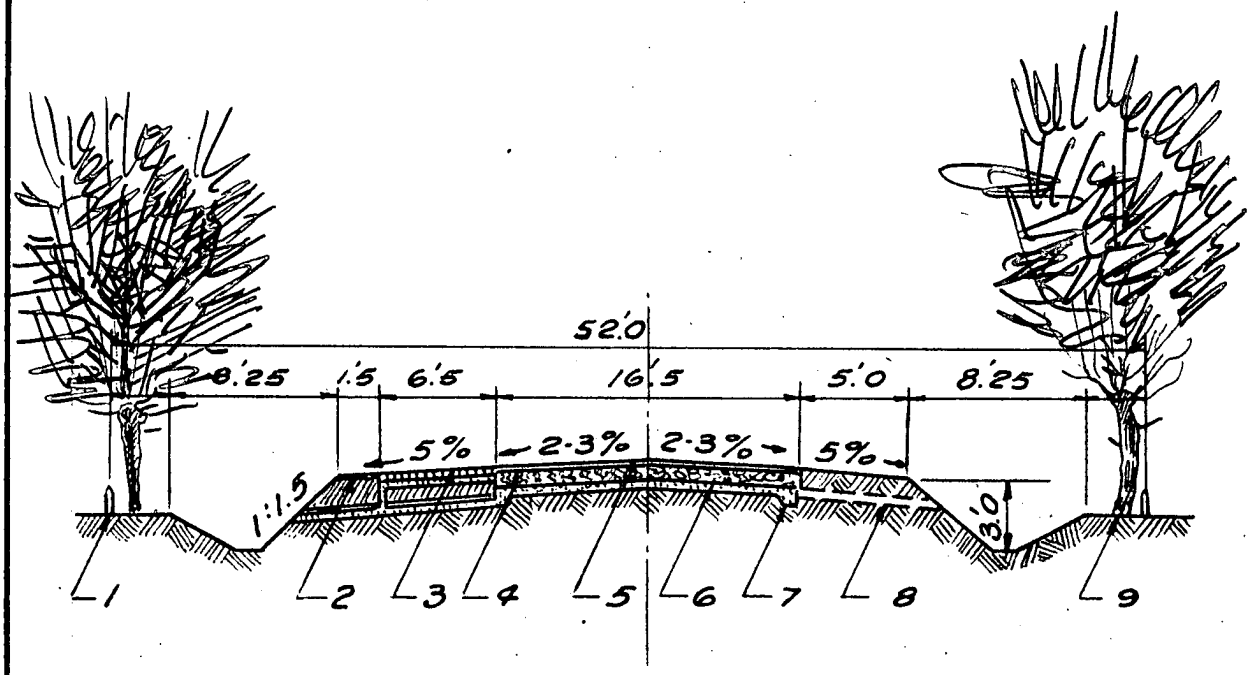
*) K.Beliukas Litovskaya SSR1955.



20. TYPICAL CROSS SECTION THRU LITHUANIAN TYPE OF HIGHWAYS 1940.

SCALE 1" = 10'

KEY:

1. R.O.W. signs
2. Turf shoulders
3. 4" (medium size) crushed stone sidewalk
4. 6" (coarse) crushed stone lyer
5. 3" crushed or 4" field stone (steep slopes) pavement
6. 4" gravel lyer
7. Longitudinal gravel canal drainage
8. Perpendicular gravel canal drainage
9. Trees

Lietuvių Enciklopedija Vol. II, 1957, pg 337

is now more solid. Also the wooden bridge on the Šventoji in Butingė farming estate, even if it was not destroyed by the military activities in autumn 1944 (there were battles for Klaipeda since october 1944 to february 1945), so had to be rbuild anyway to more strong construction after that, according to the reconstruction of the highway itself.

The highway now supposed to have one more startegic and transitional importance for russians as a road to disclose the fishery port of Šventoji*)

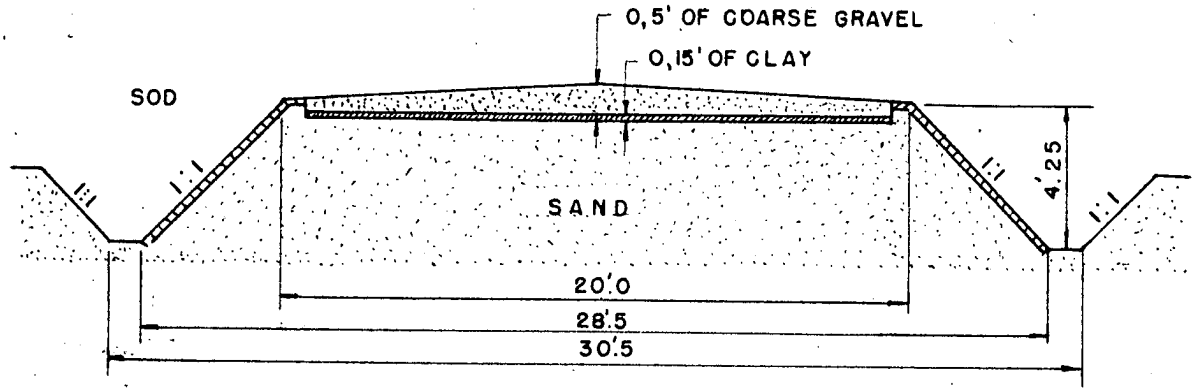
The public roads.

They were (supposed even now) always the wider dirt roads, for the local trafic in Lithuania. One "modern public road" constructed in 1932 by the lithuanian gouvernment, connecting the mentioned highway Liepaya-Klaipeda, is shown in a cross section on the pg. 71 here.

The most of former built public roads were more simple Neverthless when properly maintained, & graveled they were in 1940 in a perfect conditions and allowed to develope to the moderate haevy trafic of the native population and even, (when dry weather) for the trafic of the auto-truck of 10- 15 metric tons of weight.

The most important road of that type is the Main Road, ∠168, ((see pg 71 here)). It was before 1932 wery poor dirty road. It run along the loop of Šventoji river from the North, than crossed the Šventoji river at Sibas (se map on pg2) and run thru the town of Šventoji and farther SE to the highway Liepaya-Klaipeda. It was subject to be overflooded, if the water level in Šventoji raised. It was dirt and not

*) Remark of the author



21. TYPICAL CROSS SECTION THRU THE MAIN ROAD

SCALE 1" = 6'

TECHNIKA 1933-7, PP. 257.

hard to pass thru. It was in 1932 resurfaced, properly graveled, a solid wooden bridge(10 metric tons load carrying) ~~bridge~~ constructed. The road elevated over the earth surface enough not to be overflooded. It is 5 m. wide above the town of Šventoji(northward) and 6 m. wide below it . In spring , especially in april, it is closed for haevy trafic, as it is in rainy autumn.

THe other important publick road, connecting the coast with the main land is an extention of the Main Road(~~xxxxxxxxx~~ about 2 miles going south the highway)over Želviai and Lazdininkai)It connect this way the Šventoji Town and Port with the normal gauge Rail road Skuodas-Kretinga at its station in Darbėnai.
It is one russian czar gouvernment built public road. It is wider and in 1940 was in very proper order.

Those two main roads, connecting the coast with the main land are the only two. The others are poor dirt roads, in the rainy and wet weather are at all not to pass for the more serious vehicles.
The most of them are subject to he overflooded on the points, where they cross the depressions. They are to ride just to light peasant horse carts or slides. The only improvement is consisted df put dpwn some twigs of black alder. They have no bridges. They are of significance(sometimes temporary ones) just for native population and its trafi

There were four wooden bridges in this area of an impottance:
1. Wooden one on wooden piles over Šventoji river (see map of designation of the construction in the Port of Šventoji 1944 -pg 168 # 6)
Its co nstruction is very simpele and fits just for the purposes of the narrow gauge rail road, wich maximal load is (with ± 10%%) 10 metric

It was 2.5 m. high. about 3 metres wide and60 m. long. (see picture in the attached Technika 1933 pg-es 291,292,302)
An other wooden bridge, of the same lengtht and construction was built in early thirties over the same river, just same east of the above mentioned one. It was built for the local trafic of the native population mainly for the trafic run on the horses but not over 5 metric tones

The third one bridge was the wooden bridge over the Šventoji river leading from the Šventoji town(see the map on the pg 68 to the smoke house on the Šventoji island. It was 90 m. long, 2.5 m high and served the minor trafic(pedestrians and the light horse carts.

The fourth , concrete and pretty solid bridge, built in late thirties 30-35 m. long, 2-2.5 m high and 8 m. wide, carrying over 20 metric tons

The fourth bridge of the same type(1944) over the Darba river at Želvia (see map pg 2).

J. Rail roads

a. The existing narrow gauge rail road(6o cm. wide) was constructed before 1914 and ~~refinished~~ constructed in 1923. It was about 20 km. long and run from Drabėnai north to the Laukžeme(see map pg2) on the Latvian border and than running south , along the Šventoji river, in 1944 ending at the southern end of the Šventoji Island (see pg 68). It was served by couple of the old fashioned small steam driven locomotives and certain number

of the very simple box cars. It served exluxivelly the requirements of the construction of the fishery port of Šventoji after 1921. It served not to the passenger communication. and carried just the ~~ballast~~ fill : stones and fill to the port constructions (see picture in the attached techniKa 1933 , pg 233

The normal gauge rail road was the child of emergency and started to build in 1939 (march) when Lituania has lost the Klaipeda for Hitler Germany. It was projected on the shortest way from the Darbenai normal gauge rail road station to the Šventoji over Sausdravai village (see 1:100 000 map Daběnai-Kretinga)*), than over Kaulgraužiai and from Kulgraužiai the old narrow guge rail road along, to the Šventoji Fishery port (see pg. 168.). It was put much fill and some preparations made to complete the rail road to Šventoji, but the world war II has interrupted the enterprice-it was not finished. There are some indications**) that the begun work was driven ahead in some 1955. (see chapter about "Present situation in Švehtoji").

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*) It is not attached here. Author

**) The emmigrant press of 1955 that in Šventoji there are made preparations to finish the in 1938 begun construction of the normal gauge rail road. Author

PATR II.PEOPLE, POPULATED SPOTS AND ADMINISTRATION.

1. Some history.

Since very ancient times , allready in 9 th century, the coastal zone around Šventoji anf far north and south was populated by curonians. This spot was very hardly fought between lithuanian and curonian pagans with the moving in german ecclesial ordeer of Cross cariers. The inhabitant suffered there very much and their hard life has left deep imprints in their character.

Since 1410 this zone is ruled by the lithuanian grand duches and latter on by the polish kings. After the Polish noble republic was partititioned in 1795 between Russia, Prussia and Austria, this portion of it with province of Lithuania became a part of Russia. It became a part of the gouvernment of Kovno(Kaunas) . Because this stripe was pupulated by the curonians, who are closely related to the latvians, russian gouvernment has decided to take this stripe from gouvernment Kovno and to join it to the gouvernment of Curonia, which was populated by latvians and curonians. This situation remained till 1918. Than this area became part of Latvian republic. Since 1921 on the a way of arbitrage it came to Lithuania, as exchange for the by the lithuanian held area of Eglaite(East-southern part of Latvia).

This about 20 km long and about 4 km wide stripe of the Baltic coast, nearly 80 sq, km, was divided after that in two townships of Palanga and Darbėnai. This administrative partitition remained til 1952, when the russian communist gouvernment introduced in all soviet Lithuania a new administrative system.

Now this stripe is a part of the region of Kretinga.

2. Population

In that coastal stripe in 1922 were living about 4500 inhabitants, or 56 inh per k sq.km. It is more as the lithuanian average-50 inh per sq.km. In 1944 this number was increased supposingly up to 5400, or 60 inh. per sq.km. because of infiltration of lithuanian into new constructed fishery port and as various officials and workers.

The majority in this portion in 1921 was undoubtfully a curonian one. Since than a movement of population took place, because of the mentioned above changes of the territories by the latvians and lithuanians. A part of the curonian pupulat ion went out for Latvia and lithuanians (mostly samogitians) moved into country, In 1923 2,5 % of the population of county of Kretinga (of which it was a part)-or 2900 inhabitants were curonians. It means that allready in 1923 the population was very mixed with lithuanians.

Curonians are remnants of a ancient european folk, which lived since dark ages on the shores of the Baltic sea. Their chiefly proffesion is fishery. Here they had no competition and nobody could drive them from the sea. Curonians are to find in the northerh part of the former Eastern Prussia, living around the Bay of Curonia. Curonians now are of protestant fight and speaking a latvian language haevy penetrated with the remainders of curonian.one. Curonians are very clever fishermen and very tough peoples. They are build square up, blondy, with blue eyes and white skin. They are very much influenced by the latvians , who assimilated them long time ago.

see pict on the pg 79 here

They are slow, mouth tight as the marine folks usually are. They are a stright and even prodd. They didn't besiege the gouvernmental institutions with the requirements of the relief, unless they are generally poor, some of them very poor. *) They ~~thrust themselves~~ are self confident. If the sea is stormy, sometimes for longer time and he can not leave for fishing, or storm have destroyed his equipment, he very hardly takes a n other occupation , like farming, and suffers better hunger, as to do so. In thies cases he stays at home and makes new nets or fixes his equipment. Most of the curonians own very small and poor wooden blockhouses, with the roofs of rush grases, which they used to bring from the Papes lake in Latvia. The soil is here extremelly poor and is used just as minor support to the fishery.

Beside of the fishery, the curonians before the world war I were famous as sea smugglers. It was very profitable occupation and not especially dangerous, because it all was made by the bribing of russian soldiers, guarding the russian-german border in this area , located just 15 km, south of Šventoji. For many fishermen this proffesion was the chiefly one.and many curoniam fishermen lived at that time even well. After annection of the Klaipeda (Memel in Eastern Prussia till 1923) the border moved farther south, the guard got togher and ~~the~~ many fishermen lost their proper existence. They were all time very unsatisfied with the has refused to accept this gift, which had a political bachground. The undelivered corn was offered the most poor population of ~~Lithuania~~ itself ~~and its were the curonians~~. Author.

*) In 1925 the polish ruled province of Wilno(Vilnius) suffered bad crop and poverty. Lithuanian gouvernment, which allways claimed this area as a lithuanian one made a money collection and has sent a couple box cars ot bought corn for them, Polish gouvernment

Typical family of the curonian fishermen Deivs of Šventoji 1925

Curoni[illegible] going to the church in Nida, 1924.

Politically are the curonians pretty indifferend. They are patriots of their own fireplace and dislike any interference in their private life. The most what they want-to leave them alone. They dislike and are very distrustfull to any gouvernment as much to lithuanian one as to the communist rulers.

Unless they are poor and some of them very poor, they dont hurry on the colorfull promises of the communists. They dislike russians as strangers and espe[illegible]ially as carriers of the strange ideas of the communism. As a illustration of their behavior toward communists and their ideas should be said that in 1941 they openly resisted the idea of the fisher cooperatives, which were the first step to the fisher collectives. They were broken by the communista just [illegible] after 1945, when the russians came back.

Curonians are individualists. They are pretty backwarded and educated persons are rare among them. When one is educated , he goes out. Curonians were very looked by the german navy and merchant fleet as togh service men [illegible] at sea.

Curonians are moderate religious. They (from Šventoji) attend the church every sunday and holiday. The parish church is in Butinge farming estate. They read only bible and religious booklets. They dislike the new papers, because they deal with pretty far and [illegible] strange stuff. On holidays and sundays they cord fish

Curonians are very conservative and very slowly accept the new equipment, clothes and so on. They are not eager to emigrate, unless they are living in a overpopulated area and mostly are poot people. They say that for a bold man everywhere is chilly. It is unbelivable that curonians are moved from Šventoji and all area at present.

They should still work on the sea, which they love very much. Supposingly they are used as expirienced and hard workers in the russian driven fishery at sea from Fishery Port of Šventoji. The curonians show no sympaty to their assosiates-lithuanians. The samogitians(a western tribe of lithuanians, which borders with curonians on the Baltic coast) differ from the curonians pretty much. Once they are Roman-catholic and some intollerance exists between the adherents of those adherents of those two religions. In their appearance samogitioans differ also from the curonians pretty sharp. Samogitians liked to carry mustaches-curonians -not. Samogitians dressed longer jackets and used often sheep furs, curonians used to dress short jackets of more dark colors appeared in their clothes. They used more manufactured clothes, samogitians home made clothes. ~~Unless curonians are~~

~~[illegible]~~

Curonians use home made leather jump shoes, laiced over the pants with leather laices and wooden clumps with leather top. In winter they wear short , woolen home made coats, ship lined usually or cotton lined ones. Than they wear the high leather buts.(see picture on thepg 82). The head wear in winter (and summer) was former a german type blue woolen caps with a peak(see pg 79). The leather caps , cotton lined, with a peak and ear protection (see pg 82) they started to use in early thirthies. They used in winter a short seep lined cheep furs (pg82).

Curonian women wear a blouse and short jacket, wide skirts(see pg 79 here)decorated by colored ribbons, sometimes aiprons over it. dark stockings and high laiced shoes. Their head wear is usually a babushka and in winter over a babushka a haevy woolen plaid.In

24. Curonian fishermen packing the ice into the icehouse in Šventoji in 1937.

tive oven and a heating brick wall with the channels to conduct

winter they wear(se picture on the pg. 84)short woolen coats lined with cotton ar sheep ~~fxx~~ fur.

The curonian eating, like it is of samogitians, is very simple. Curonians along with vegetable, potatoes, milk products and some mear(pork meat chiefly) use much fishes. Fishes are eaten fresh or smoken or salted. The smell for fish is very caracteristic to the all curonian houses, even their clothes have this smell also. It is easy to recognize the houses of the curonian fishermen because of this smell. They used wooden or metal spoons and table knifes. The fork was introduced here and widely used just after war I.

Curonians use much alkohol. After using it, curonians can be seen some smiling. If not- a curonian is silent and distrustfull. With alkohol can be done much with thies people. Besides of alkohol they used to use an ether, called "drpp". Couple drops on a piece of sugar, chewed and swallowed make a drinker drunk. It is ~~xxxxxx~~ very cheep and was in use widely.(same did the samogitians)

Along with own latvian language, curonians speak here lithuanian and some german. They vacabularity is very limited. They seldom sing.

The blockhouses of them are small, lacking on conviniences and with no toilets. Usually they are 24x20 feet to, small for numerous families of the fishermen. If the house is some longer as 24 feet, it is usually divided into two "flats", cositing one room. Some partitition of that "flat" is obtained by the clay made primitive oven and a heating brick wall with the channels to conduct the smoke from the oven.

Curonian women planting pine plantings in Šventoji

1937

The walls inside and ooutside of the houses are plain heaved tree trunks(10-11 put on each other)Sometimes inside they are papered with cheep old swedish news papers. In thirties they started to plaster their walls with limestone mortar . This could afford just the most prosperous of the fishers. The ceiling beams and planks are visible and not covered with the lumber or plaster. The floor usualy clay made one. The prosperous ones have the lumber made floors, which are more clean and saving health.
The windows are small and scarce(just few)with dense framework and small pieces of glass. Usually there is a entrance door in the house. Some houses have porches. They are a type of an attachement to the house of same width, just much shortes as the house itself. There are some houses with the open porches, attached around the entrance door. Everything is here wooden, not painted and all of weather gray color.Locking of the door by mean of a bar.
The houses are subject to often fires. Most of the houses have no chimney and at time of heating or cooking(early in the morning and late at night) haevy smoke curls in the upper part of the rooms, forcing everybody to keep down. The most prosperous have the oven with the chimney.
The furnichure is very primitive, home made and haevy. There are benches(stuls are intrioduced after 1918 here), haevy tables, wooden beds and other minor equipment.They are using many home made tools black smith made or wooden. ones.
In a flat live the parents and many children, even married ones.
As heating material is wood. The forests around are devasted and young and the fuel wood is expensive and hard to obtain.
Allready before the world war I(1914-1918) curonians used peat.

Supposingly now the curonians of Šventoji are using as fuel mostly peat and the peat bogs are badly dug out.The lack on fuel wood was and is a reason why inhabitants dont try to build larger houses. The structural wood is also hard to get.

The roofs are covered with the rush grass, brought from the Papes lake in Latvia. Those roofs are reinforced with stones put on the wooden stakes, connected to the roof. From the sea the roofs are reinforced against winds with long solid stakes.

The peoples here are pretty healty. The people of a respectable age are not rare. They are still wealthy thinking. The conditions for good health and high age are not favorable.

One poor fishermen has chiefly a small blockhouse, a very small shed to keep couple of pigs or a cow. That is all. The more prosperous have some more land and drive the farming as part time job. Than they have couple of cows, even a horse, which is the only locomotion power for the horse driven trafic or as power to cultivate its soil. In that case there are available some biger sheds and small barns. They own some poultry, dogs and cats. The equipment to cultivate the soil or to run fishind are primitive and mostly of local fabrications(native black smiths, carpenters) Fences are of staks, sometimes there are no fences at all. At present there are no fences at all for sure.

Curonians dislike travel. They are traveling not far away and jus for short time, driven by the emergencies(doktor, court deals ect) The curonians are living closest to the sea. farther , bhind the Liepaya-Klaipeda highway are living chiefly samogitians, who are chiefly farmers and if they fish, so do this as part time job, giving fishes as own food.

The wells are dug out on each settlement. They are very shallow 1-2 m. deep. The easy penetrable soil(sand and gravel) allows to get the dirt from the sheds and primitive lumber made toilets behind the sheds, with the rain water into the wells. Some wells are not used, because water is very poor and even poisonous.
The keeping of the animal and human wastes openly, breeds lots of house flies , which are here abundant and troublesome.
The sanitary conditions among the native population was and supposed to be still now in a primitive stage. There are still available parasit satelites of a man. One mentioned plague. is a house fly. There are millions of flies in summer. Some were they kept down by the propoganda measurements of lithuanian gouvernment and methods applied to combat them.
The hair and linnen louse is still common there. Only method to combat it is a changing of the linnen every week. But this way is far not to be adequate one. Suppsingly now, when soup is expensive hard to get , this problem loks to be serious one.
The third one parasit is the flea. It propogates in the middsummer enormous and there are practically no spot without fleas there. Even in the fields, where people are working fleas could be find. For the people, who are not accustomed to this type of a satelite it is hard to aslep and to sleep at all.
The fourth one is the house bug. It is available and even abundant in every one wooden (also in brick ones also) living construction. It is very burdenous and people befor this warII started to plaster their homes with the lime stone plaster. It helped much, anyway house bug is still popular there.DDT is there unknown.

3

3. The curonian policy of the lithuanian gouvernment 1921-1944

The policy of all lithuanian gouvernments toward the minorities was one of the assimilation. Just the methods, which were applied to ~~xxxxx~~ the individual minority were different and were in same cases more sharp or milder. The all gouvernment have run same policy and just the intensity of the methods applied were different.

When the lithuanians won their independence, it was pure nation of farmers. The lithuanian intellectuals came from prosperous and well-to-do lithuanian farmers were few. The most of skilled profesions in Lithuania were practized by non lithuanians. All trade, industry, communications (banks) ~~and a trade part~~ and a big deal of farming soil were non lithuanian. The fishery (freshwater) was jewish, ~~xxxxxxxxxx~~ in ~~the fresh waters of the country~~ and on the sea shore-curoniam one. The curonians were :poor people and gouvernment started to run support of the the fishery and at same time started to penetrate the tough curonians with samogitians and other representants of lithuanian tribes. Gouvernment has established various economic organisations, which were controlled by the gouvernment. The fishery port in Šventoji was going to be built, one fisher cooperative , controlled by the state was established, and were built new modern fisher motor boatm equiped with the modern nets, trawls and instalations. They were given to the curonian fishermen for terms to pay out. For each boat was foreseen two curonians and one lithuanian as coowners. Same was with the gouvernment built brick houses. They were sold to curonian and lithuanian fishermen on easy terms. Practically everything , even the realisation of the cathes were controlled by the state and lithuanians.There were given

special sums to the lithuanian officials , running the policy of the gouvernment of the special secret funds, which were appointed to support the combat of the german and curonian minority on the Baltic coast. There were some propoganda, some presure some lure. It was hard way to assimilate the curonians, because they were thogh, backwarded and in a close neighborhood to the Latvian republic, which still was their native country. There was a latvian contra propoganda against assimilation of curonians by the lithuanians. Practically the curonians were unassimilable and lithuanian gouvernment put more attention to the education of the curonian youth in lithuanian traditions. Modern school was built an free and obligatory primar education applied, as it was in use in the all country. Most of curonians ignored lithuanian schol and send their children to the a latvian school, existing in Šventoji.

Serious asimilation activity there was set just in thirties and at end of it came the war II , which has interrupted all enterprise, Anyway curonians didnt get friends of lithuanians. Especially hostilities didnt take place. Curonians ignored the lithuanian attempts to assimilate them, but never they demonstrated it publicly.

Curonians respect germans as a strong nation, but unless many latvians and lithuanians in spring 1941 left to Germany as Folks-German (Repatriation of german origin people from Baltikum in 1941), curonians remained at the spot, unless they as protestants and having some cultural signs of german culture, and ability to speak some german, were be able to be admitted by the german repatriation commisions for Germany.

4. The populated spots.

a. Villages:

As it was allready mentioned before, the all pupulated spots in this area are located on two slightly over the sea level elevated stripes. Thies poor sandy and gravely arable plains are since old times pretty dense populated and limited area didn't allow to expad to the previously populated spots. There are just few changes in the topomastic of the area.since 1916. Just farming estates has changed their character and became more dense popupated and covered with small individual staeds. The most changes occured since than around the inlet of Šventoji r river, where since 1923 was started to be built a small sea fishery port.

There are few villages in this area. 1 Šventoji, 2,Butinge, 3, Mančiškė and4.Paliepgiriai. and the farming estates 1Butinge, with its accesses: (estate subdivisions) : Rutein, Smeltsche Želviai and Kaulgraužiai.

Šventoji village is scattered over large area of 2500 acres (1056 ha) from Lupeiki(see map pg 2) to Monciškė(in the south) Its Parts are scattered in individual steads and some street sub-villages, which carry either the same name of Šventoji or the names of the owners. Thus the main village is Šventoji - Silenek(see map pg2). It is a street village, with the individual yards both sides of the street. There were 16 individual yards in 1916 and about 20 in 1944. Here is the most of suitable for farming areas. The other part of the Šventoji village is located along the sand dunes, on their east side. The other steads, belonging there are groups of steads and individual one , which carry the names of their owners(Tapel, Zybe, Balzer , Sile a.s.o.

Usually every one individual yard has a living block house, a primitive block shed for domestic animals, a block barn and sometimes other minor constructions if the owner is prosperous one. In the backyard usualy is cultivated a vegetable garden. The poor owners have mostly just house and a shed.

In 1926 there were in Šventoji :owners

16 owning 1 and less ha of land,

64 " 1-5 ha

6 " 5-8 Ha,

~~XXXX~~ 13 " 8-15 ha

7 " 15-20

16 more as 20 ha.

17 landless fishermen families.

The largest possesion on farming land was 112 ha (the smallest one -1/6 ha), There were there 88 owners of the land,total 1059 ha or 2500 acres.*)

The use of the farming land was as follows:

gardens ahd orchads	26 ha,
arable area	238 "
meadows	346 "
brushland	12 "
pastures	229 "
of no use(swamps)	206 "
others areas	2.25 ha.
Total	1059 ha.

*) I.Končius and V. Ruokis, Palangos kraštas,1926, pg 114.

In 1926 there were owned by the farmers 128 working horses. South of Šventoji river in Šventoji village were 670 persons.

b. The farming estates.

The farming estates are old farming land formations, which were in Lithuania as large possesions of the numerous individual possesors. The generally are established on better and more fertile soils and mostly were before world war managed by the possesors by mean of numerous administration. Many of them were managed poor, but many of them very prosperious and this way were the spots where the agricultural progress found adaptation and propadation. They were chiefly in possesion of polish nobles. An other serious possesor were the russian czar officials, who took the land from rebeling polish nobles. On the third place were german barons, especially in the north of Lithuania. After lithuanians have established their republic in 1918, they firmly went to keep down the mighty influence of non lithuanian possesors of the farming estates and expropriated them, leaving to the owners, under symbolic compensation, for other expropriated land, 80 ha large areas with the necessary constructions. The same was done with the farming estates of Butingė , Želviai, Kaulgraužiai and others. The expropriated land was given as gift to the lithuanians, especially destinguished in the battles for independent Lithuania. There are left to the former owner 80 ha of land, and the remnants partitioned between lithuanians. The new steads are of same shape and constructions as other farm steads , describet above(pg82-85).
The farming estates themselves have kept their old yards with

their big constructions and living houses as much other farming constructions(some constructions were taken by the gouvernment also if they were not definitly necessary for the remainder of the farming estate). Thera are to find still big barn, large sheds, big living houses, when sometimes very neglected, large orcads a.s.o.

In most cases the farming estates formed latter lithuanian towns. The same is with the farming estate of Butinge,which went to establish a town and a cultural center of the viccinity (church, post office, police station, school a.s.o.)

Butinge farming estate has a church, to which the pariosheners of Šventoji belong. It was built in 1824 and is alutheran church In 1930 was built an other, a Roman catholic chirch.Before the fishery port in Šventoji was going to be built, Butinge and Palanga were the the cultural and administration centers of the area.

5. Judicial conditions till 1944.

Since 13 th century the latvians and curonians were under strong influence of the german culture, like the lithuanians were under pol polish one since 15 th century. Unless russians, who took over the of latvians and curonians populated area since 17 th century , the influence of the german was alive all time thru up to the 1919 . It found its expression in the laws, applied for this area, the Šventoji area included. The latter Latvia was ruled under czar gouvernment with special Code of Curonia,which was very grounded on the german laws and customs.This situation remained till 1944, because the Lithuanian Republic was not able to creat its own,uniform Code of laws*)

*)In Lithuania were in use four law codes, different to various areas, making the Lithuanian Republic. Author

The territorial water zone of Russian Czarist Empire was the same of the Republic of Lithuania, because it succesed the russian laws. It is the same in the Soviet Russia. Thus according to the russian "Prize Law March 25 th, 1895 and April 8 th, 1903, the territorial waters extend 12 sea miles seaward (one sea mile equals 1.832 km.) The right of cabotage and territorial fishery belog to the citisens of Russia alias Lithuania.
The custom duty in the territorial waters is far as 3 sea miles, accordind to this law. *)

_.6. Coastal guard and defence of the coast.
Up to 1914 the russian czarist gouvernment has a serious defence system , established along the Nemunas river, with some minor bases on the german border in Lithuania. On the Baltic coast they didn't pay much attention and the coast was guarded just by the usual coastal guard which was included in the system of the ministry of treasure. In 1914, when the World war I has broken up, russians made same primitive fortifications of the coast, which vere simly trenches, defended by the infantery. There were minor fightings along the shore, some bombardments of the shore by the german navy, but all this was primitive, poor and not of importance. Russians, driven by the germans much eastwards (operation Augustowo and operation Grodno) forced the russians to abandon the Baltic coast almost without struggle. Than russiams have

*) Svod zakonov Rossiiskoi Imperii 1893 ed. Volume VII, part I.

withdrawn on the Duna (Daugava line).

In 1918 was proclaimed a Lithuanian republic and after couple years of the fightings for the independence borders set. The Šventoji area came as friendly agreement between lithuanians and latvians to Lithuania.

Tithuania successed all the old rùssian system of the defence of the coast- there were no serious instalations for the defence

The coast guard system of former czarist Russia was based on the military, which was stationed along the state borders and on the Baltic coast. There were even three lines of the guards, checked by the under and regular officers. Nevertless the smuggling of german goods over the border on land and on sea bloomed all time, ~~there was~~ the russiam military guard. The smugglig was very good and easyly organized, because the smugglers cooperated with the russiam guard, giving them money as bribe. Usualy, the russian guardmen, finishing their service in the army went home as rich people. This way was organized the illegal emigration of the lithuanian population to USA (over Germany).

Since 1921, when lithuanians got this stripe of the Baltic coast, it was introduced exatly same guarding system as it was in use in old Russian Empire. The results were same, bribery and smuggling bloomed till the lithuanian admi istration canceled the military guard and set a police service, properly paid and properly controlle The smuggling was stopped practically.

The lithuanian border police was patroling along the coast daily and nightly. On the passes thru the dunes in a distances of3-4 km. were constructed simple lumber shanties, to get protection for one man against rain and snow fluries.

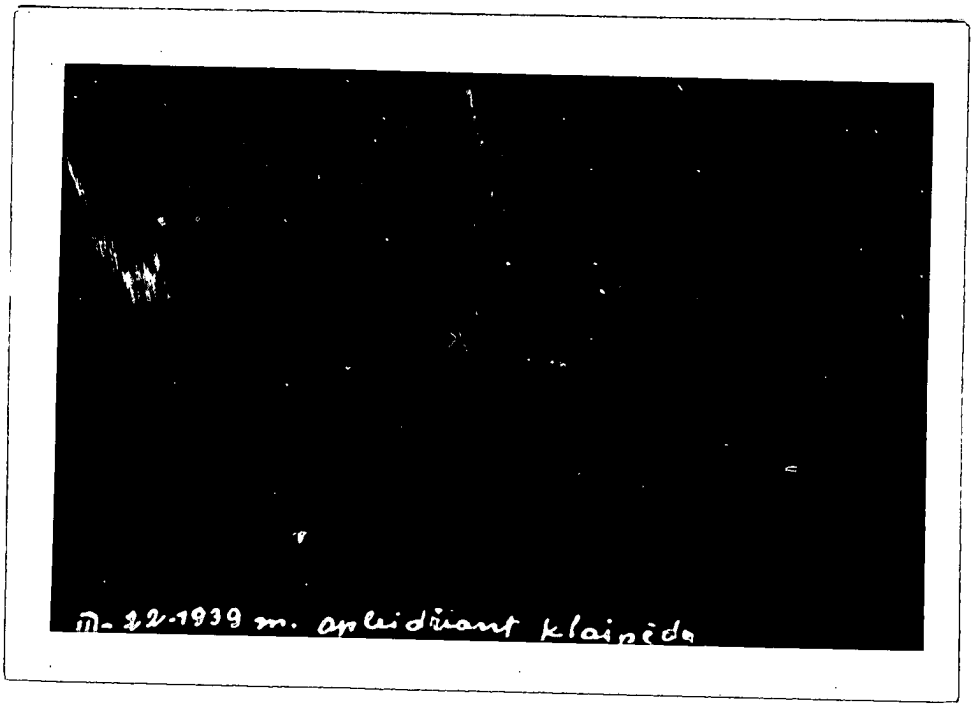
In Lithuania was only one coast guard ship "Prezidentas Smetona".

It was old german ship(se picture pg 96), very slow and not able to prosecute the smugglers. A military importance of that ship was negligible an had to be considered more as a training ship for (the beginning of the) lithuanian navy (There was no navy in Lithuania).

The soviet russians, after they came to Lithuania and occupied it in 1940, has paid much attention to the guarding of the borders and especially of the Baltic coast. All the coast several kilometers deep was under supervision of the coastal guard (same border guard) with special formations of NKVD. The entrance into this zone was allowed just under special permission of the local and highest central authority in Kaunas.The entering persons were checked and searched before and than the permission was issued. The native population didnt require thiese permitions, but were very sharply observed a nd individually studied by the local communist party officials and the officials of NKVD.They were inspected when they left for sea (fishing), thah checked and inspected at sea by the soviet navy vessels, and again very sharply checked,when they came home. It was very burdenous prosedure. This period(1940-1941) russians couldn't establish the proper controll of the coast zone and the author, who had to do in the Šventoji Fishery Port in early 1941 could undisturbed go from Darbėnai thru the forests and bushy fields go thru up to the Šventoji not to be checked by the soviet coastal guard.

Now it is the situation much different. one. It is not known to the author in details. The lithuanian emigrant press indicates*) that russians are guarding the Šventoji area very tight. Some indications poit that in the forest east of Šventoji , where the entrance for the civic polulation is prohibited, there is built a coastal defense system.Thera are to observe much military.

*) Nepriklausoma Lietuva, 1951.



The only lithuanian coast guard ship, leaving Klaipeda, after Hitler Germany took over it.

1939.

P A R T III. FISHERY PORT IN ŠVENTOJI

1. History.
In the past there were many attempts made to constuct the fishery and even a commercial sea port in Šventoji.All those attepts failed (competition of the more suitable neighbour ports in Klaipeda and Liepaya).

After 1921, when the Lithuania received the Baltic coast stripe on theBaltic from Latvia, there were some seriousx projects discused, how to built the sea port again.

In 1923 came to Lithuania the Klaipeda autonomous district, which was before the part of Eastern Prussia. There was an old proper fishery and merchant (commercial) not freezing sea port. It was the natural outlet of the Nemunas river are, which formed 2/3 of the territory of Lithuania. Thus the sea port in Šventoji lost on actuality and the idea to construct there a port has to be considered from the different points. of view

When the fishery port in Šventoji was decided to be constructed as a fishery port of minor impottance, so was the fear that rising Germany will take the port in Klaipeda with the all district of Klaipeda away. This was a real thinking, because it went reality in 1939.

Since spring of 1939 were under project and fullfillment more serious constructions in sea port in Šventoji. It was proposed to construct a necessary sea port as substitution to the lost Klaipeda in. Even fantastic plans took xxxxx place-to construct the lithuanian navy base. Navy as such didn't exist in Lithuania.
The world war II in 1940 -1945 interrupted thiese attempts.
It was constructed as a fishery port of minor use and under haevy spendings and much of work was temporarily worked out to

admit minor vessels of 12' sinking. In 1940 the drift sand closed it again against sea ships of that size.

As a sea port is Šventoji fishery port of minor use for it have no river as Nemunas or Neris, which are navigable. The Šventoji river ~~is no~~ substitute to them and thus the port has no opened background and is dependable on the rail road traffic, which is expensive one and can perfectly substitute the water-ways.

2. The project of 1924. *)

According to this project, the fishery port in Šventoji had to be constructed in 3 stages: (see drawing pg. 101-103)

The first one was:

1 To construct the water breaks C and D around the outlet of the Šventoji river., leaving a 60 m. wide space as outer gate.and interior (moles ~~water breaks~~) "F" and "G" .

2. To extend thiese two water breaks to the depth of 2 m. (6.5')

3. To excate the channel "H" up to the interior gate "F-G" and the fishery harbour "J".

4 To make the fishery harbour "J" good for 100 fisher motor boats and to construct the quay on the western bank of "J".

5. To reinforce the southern bank of the Švehtoji river in its loop between "K" and "J"

6. To construct the necessary constructions (living, storage ect)

The second stage has foreseen :

1. To extend the both outer water breaks to the depth of the 5 m. (some 18')

*) Technika 1933, pg 157

2. To construct the eastern quai for the main operations of the port in "J"

3. More constructions according to the enlarged activity of the port. (rail road road station-narrow gauge' and many others)

The third stage projected

1. An extension of the water breaks to the depth of 7-8 metres (some 25') to allow to the marine commercial ship to get in.

2. To excavate and to extend the "J" harbour far backward over "K", [illegible] up to the dam and lock "M".

The whole project was figured out for 15 millions Litas*) The construction was accomplished just of a first stage and is not much differend, supposingly, from the situation existing at present there.

3. Completion of the port constructions

Lithuania was always short on enginering man power and expirienced sea port constructors ware in Lithuania at all not available. The appropriations were short also. A foreign comtractor took care of construction. under the supervision of the lithuanian civil ingeneer J. Šimoliunas, and latter on J.Losinskas). The all enterprise was an expensive experiment and painfull training for the native civil engineers. The mistakes made were burdenous

*)About 2 million USA dollars in 1933. Author

are almost not to fix, especially the first construction- this of the southern and most important water break(see below).

4. Appropriations

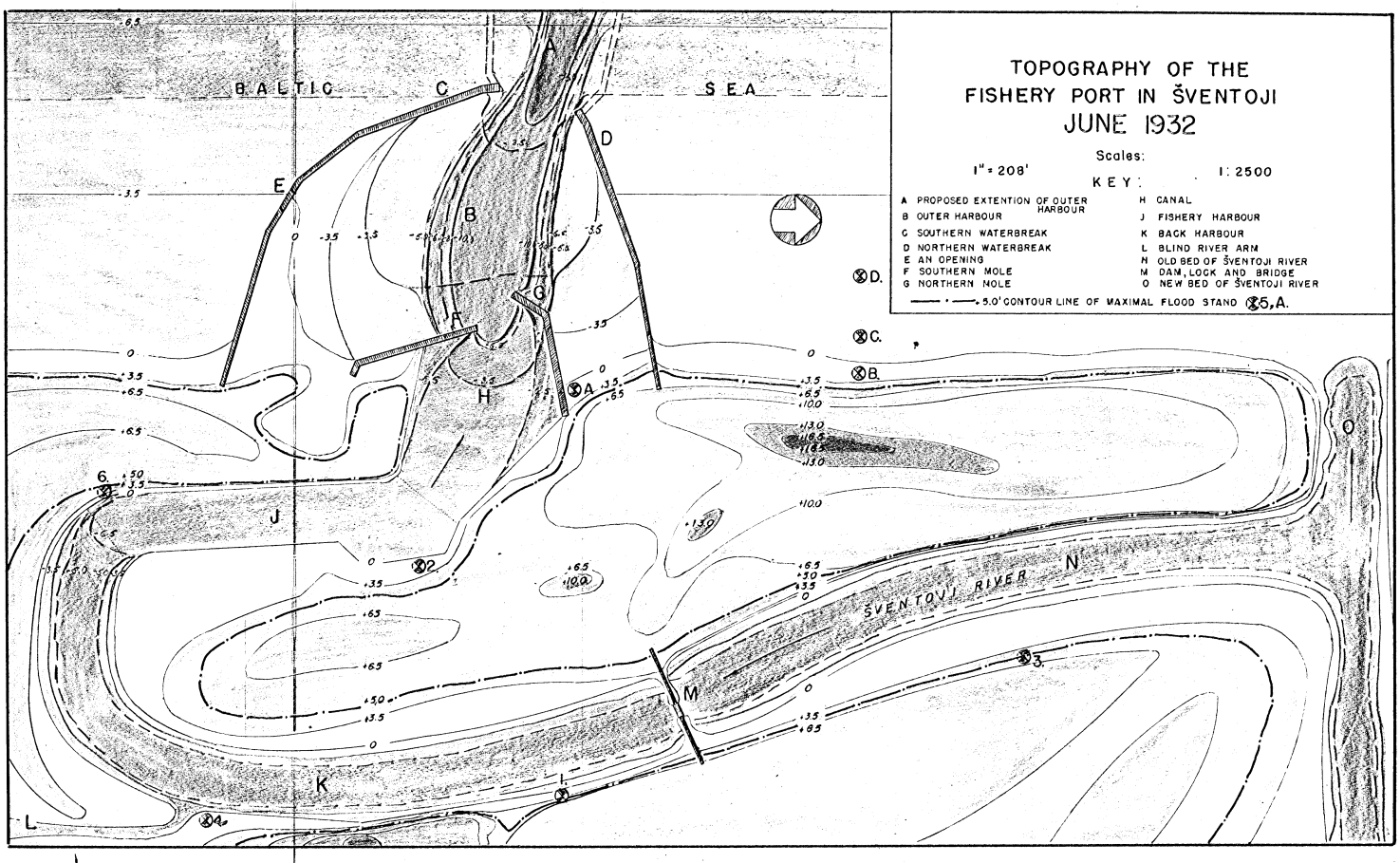
In a period of 1923 to 1933 were spent 3.692.168 Litas (about 370.000 $). Here were included also the constructions of roads and living constructions, bridges, fixing of nararow gauge rail road ect)

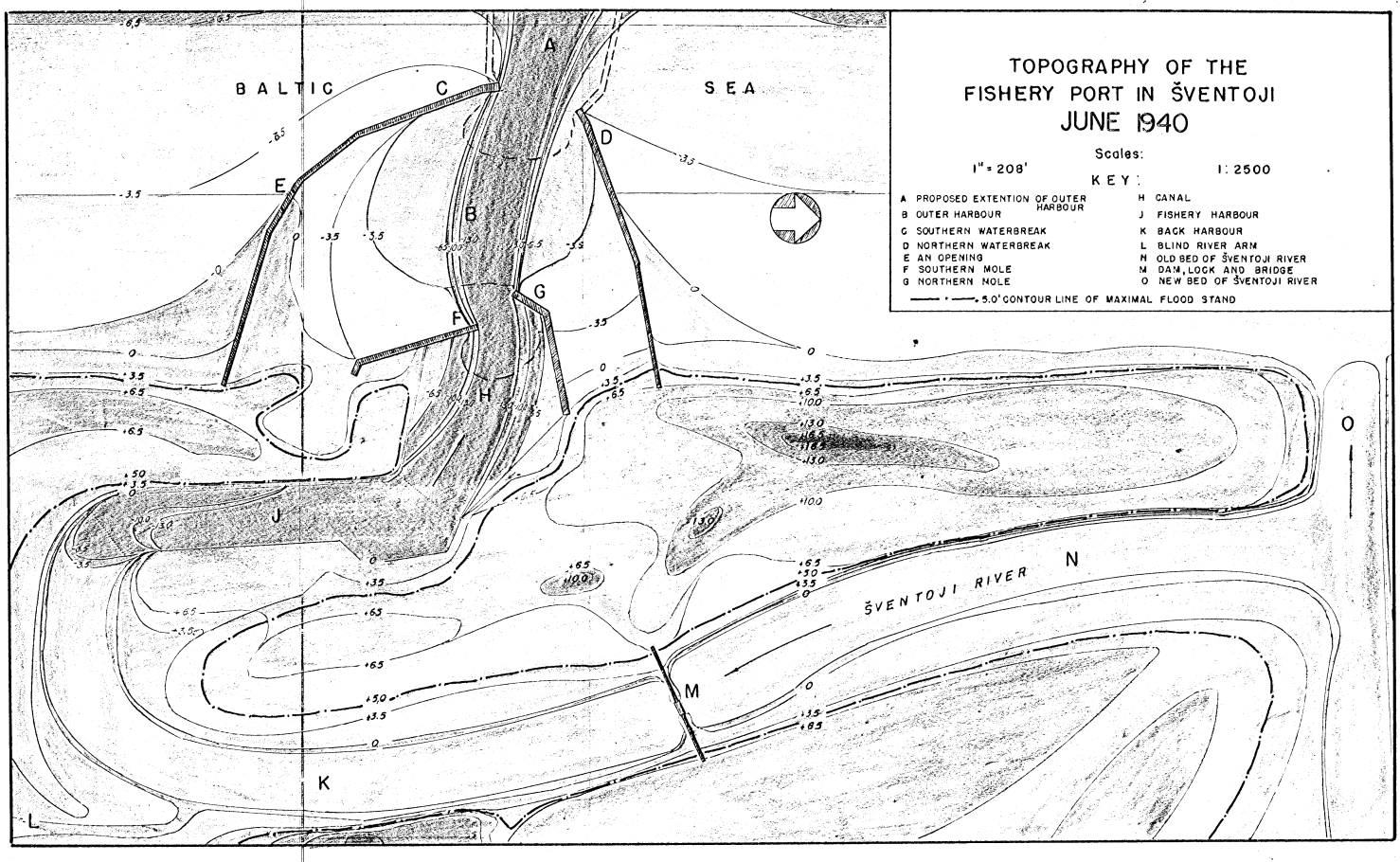
In 1934 to 1940 was spent abput 2.200.000 Litas(or about 150.000$). Total in 1923 -1940 : round 6 mil. Litas or 520.000$. The average appropriations for those constructions run about 330.000$ a year, but in the 1939 they were as high as 700.000 Litas and in 1940 480.000Litas, because of the lost of the Klaipeda and preparations in the Šventoji to fit this port for some commercial purposes(see below).

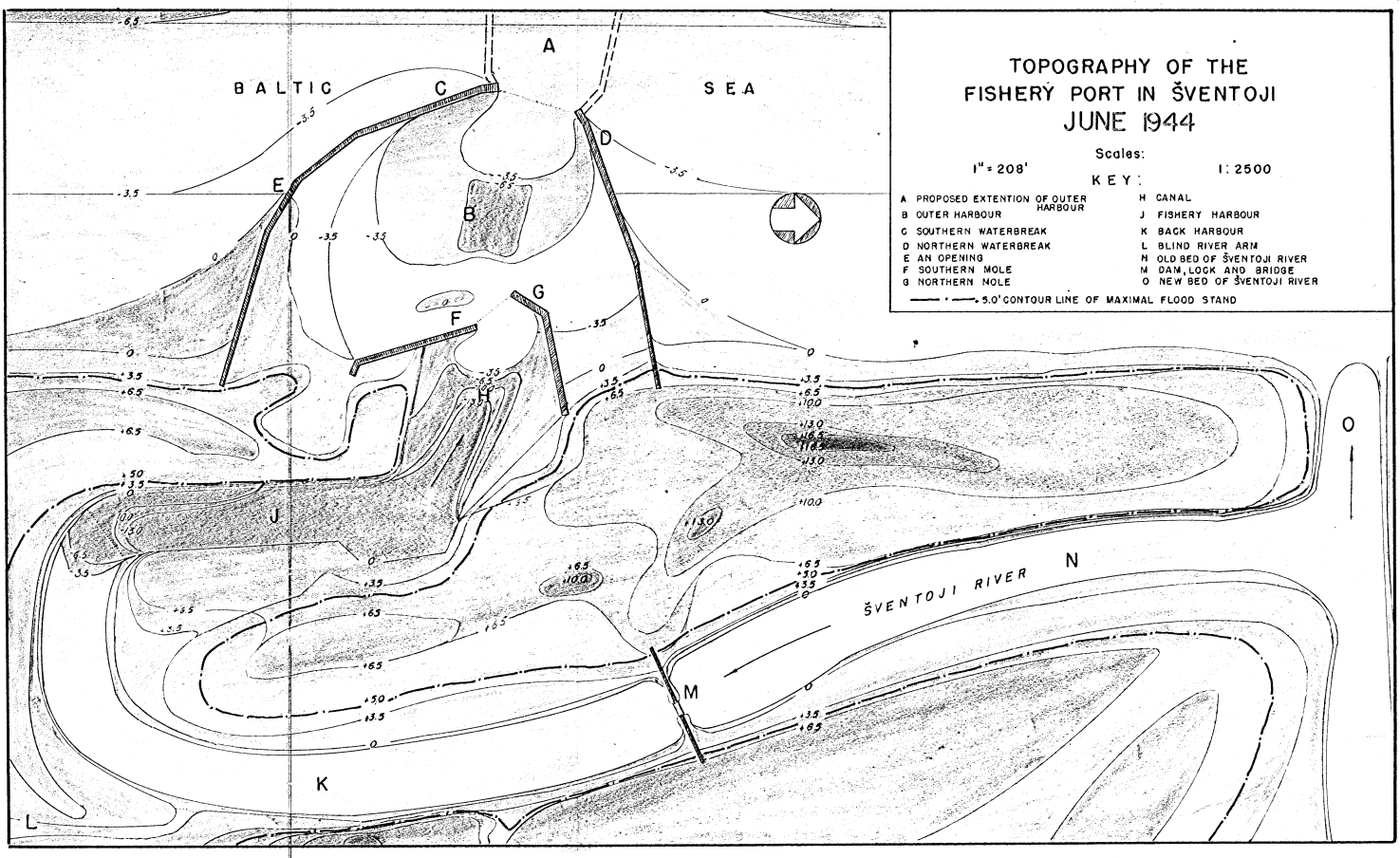
5. Constructions in details

a. The Outer Harbour "B" (see drawind pg. 101,102,103)

It was started to construct in 1924. The area including in the harbour is large as 4 Ha, or about 10 acres. It was all time a transit harbour , without any special installations there. It was bordered by the outher waterbreaks "C" and "D" and interior ~~water breaks~~ moles "F" and "G". The Outer gate "C-D" 60 m. wide and of the natural depth of abput 2 metres was proposed to keep steady under excavation up to the 3.5 metres all harbour thru to the interior gate"F-G" and some behind it. The excavation had to take place in a shape of a channel some 100 m. wide.







TOPOGRAPHY OF THE FISHERY PORT IN ŠVENTOJI
JUNE 1944

Scales:
1" = 208' 1: 2500

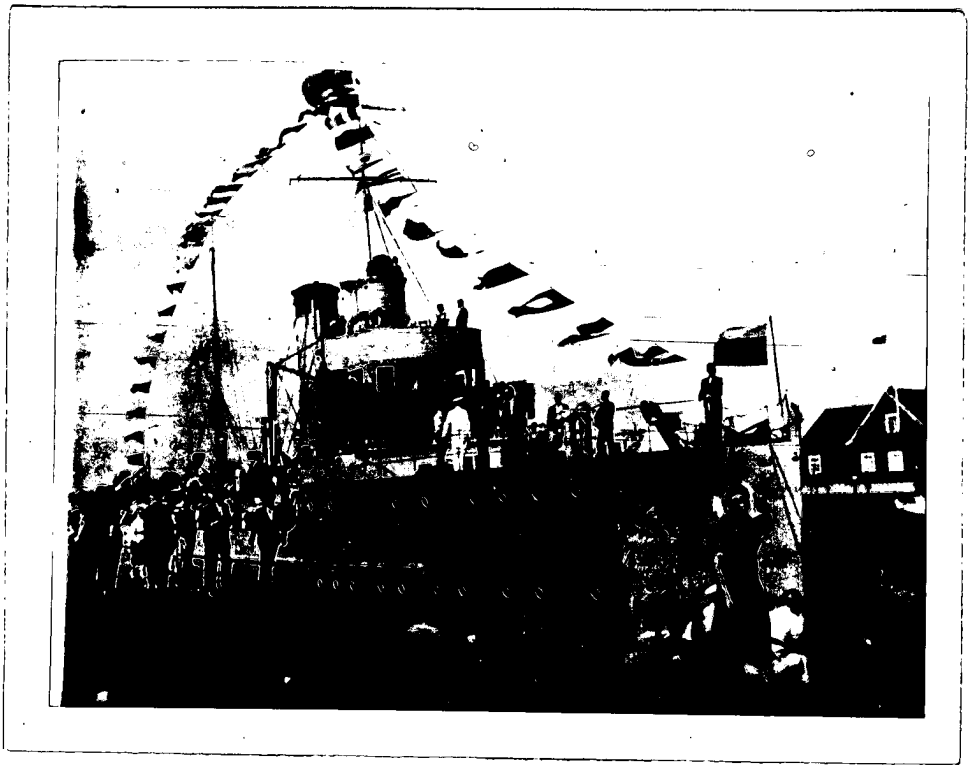
KEY:

A PROPOSED EXTENTION OF OUTER HARBOUR
B OUTER HARBOUR
C SOUTHERN WATERBREAK
D NORTHERN WATERBREAK
E AN OPENING
F SOUTHERN MOLE
G NORTHERN MOLE
H CANAL
J FISHERY HARBOUR
K BACK HARBOUR
L BLIND RIVER ARM
N OLD BED OF ŠVENTOJI RIVER
M DAM, LOCK AND BRIDGE
O NEW BED OF ŠVENTOJI RIVER

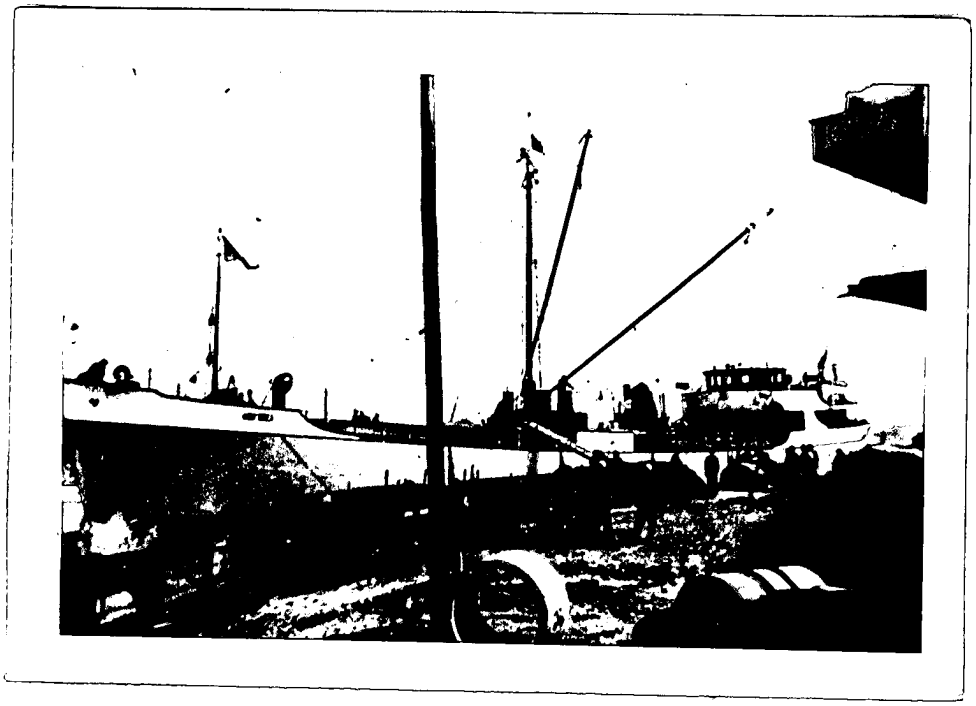
5.0' CONTOUR LINE OF MAXIMAL FLOOD STAND

This depth was proposed for the whole area of the 4ha, but never kept thru. Just the channel was subject for the excavations. The failure of the southern water break construction(see below) caused haevy formations of the drift sand banks inside of the outer harbour, especially in the areas of the both gates(C*D" and "F-G"). This harbour after an errection of the southern water break grew to the most dangerous area on the whole coast for during the stormy weather and storms, which used to form short and high waves, the lowest point of the waves reached the bottom and thus way crushed the fisher boats droping them from the top of the waves directly on the sandy bottom. The excavation machines used to work staedily and the ~~xxx~~ expences to maintain the channels clean made ~~xxxxxx~~ 30.000 Litas annully.

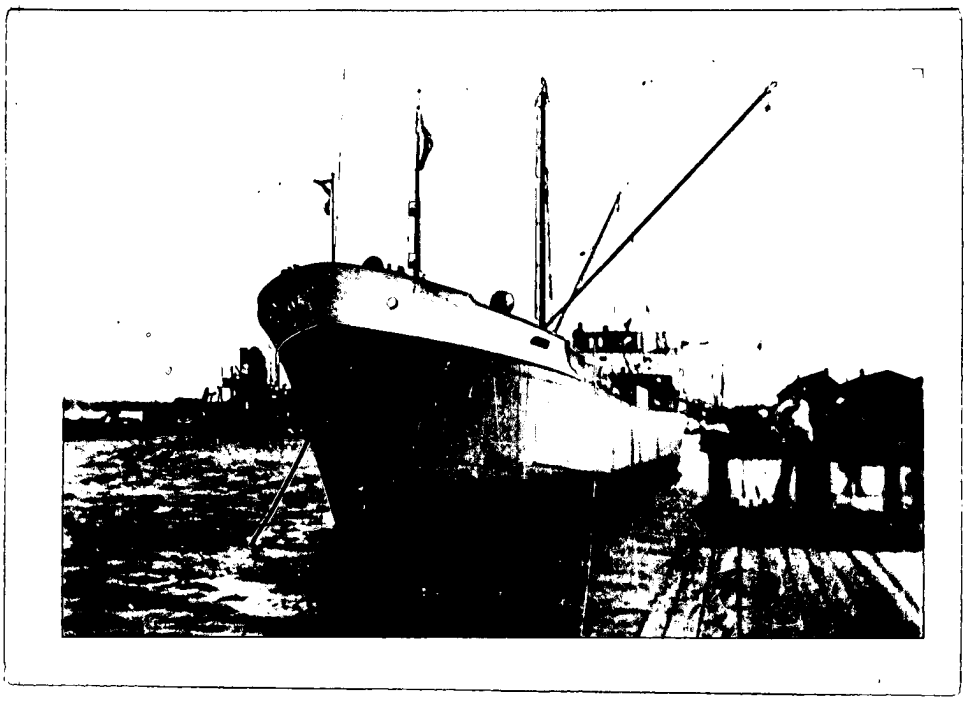
This situation was existing till Klaipeda sea port was lost to Germany in early 1939. Than has to leave Klaipeda the only lithuanian coast guard ship "Prezidentas Smetona" (see pg. 96) and some other native vessels, which had no home and were kept at ppen sea three months long(xpmarch to july) long. ~~because~~ The Šventoji port could them not accept because of their ~~xxxxxxx~~ relative high sinking. Thus it was a latvian drag ship hired, which worked hardly three month to clean a channel suitable to go thru to the vessels of 12' sinking. (see pg 105-108) This depth was existing in the outer chamnel "A","B","H" and "J" all 1939 autumn and even in the spring of 1940. Short before



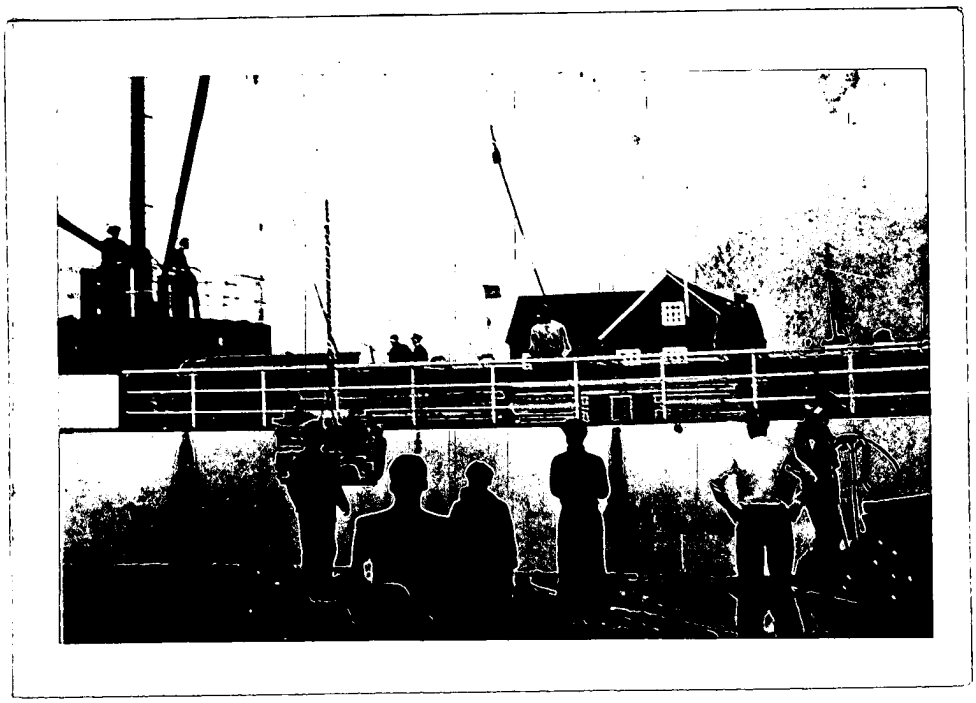
3) Lithuanian coast guard ship "Prezidentas Smetona" in Šventoji fishery port in summer 1938



The dutch frighter "Reze" in the fishery port of Šventoji in summer 1938.



Dutch frighter "Reze" in the fishery port of Šventoji in summer 1938



1.3 Dutch frighter "Reze" loading slippers in the fishery port of Šventoji in summer 1938.

the russian invasion into Republic of Lithuania in summer 1940, the storms closed the channales again with the sand banks and thus trapped the coast guard ship "Prezidentas Smetona". This situation lasted till summer of 1944 to the end of the german occupation of this country and even long after war, supposingly up to early fiftieths, because in 1952 was the activity of this port revived.

The present depth situation of the Šventoji harbours (supposition of the author) should be close to that in 1938 suumer - 1940 summer, (see pg 102), except back yard harbpur "K", which may be made deeper.

b. The ~~kxxxkxxx~~ water breaks.

ba. The southern one. "C".

The most important and protective is the southern water break for it has to protect the port from the drift sand and haevy waves of the SW storms, which are here dominant. It is the longest about 380 m(1250 feet) and was proposed to construct it mostly strong.

The construction begun 1925 early in the spring and completed at the same year in autumn.

The construction is a wooden one,The piles were made of 30-40 cm ~~XX~~ (14-16 ") in diameter pine (Pinus sylvestris) trunks. The material fpr this purpose was taken of first class. They were cut at neighbour state forest districts(ferest-master districts)(see pict. in the attached here Technika 1933, pg 174)

The piles were secured with the pile shoes, made by the native black smiths and driven by mean of the old fashioned easy working pile driving machine(see pict. in Technika pg 162. 163,252.

The piles were driven at a distance 0.5 m from each to other (distance between centers of thepiles). They were consolidated by mean of cross beams and bolts 1. at water level and 2.on the top of the piles.(see drawing pg. 111 here).

The piles were driven in two rows . The distance between the rows made at shore line 0 metres. , staedily increasind going seaward . At the end of the water break head it was 7 m. wide. The both rows were reinforced with special additional piles and cross beams, connected with the iron bolts. The mean width of the water break is 5 m (16.5').

The both outer breaks are elevated 2.5 m(8.2') above the sea level (mean table).

The piles and the beams from the outher side were reinforced by mean of big galvanized iron nails with 10 cm. (4") caps 0.7 m above and 0.30 cm below the sea level. It was the protection against ice destructions.

The driving in into the sea bottom length of the piles varied pretty much; 2 m at the shore (6.5') and 5 m. (16.5') at the heads. *)

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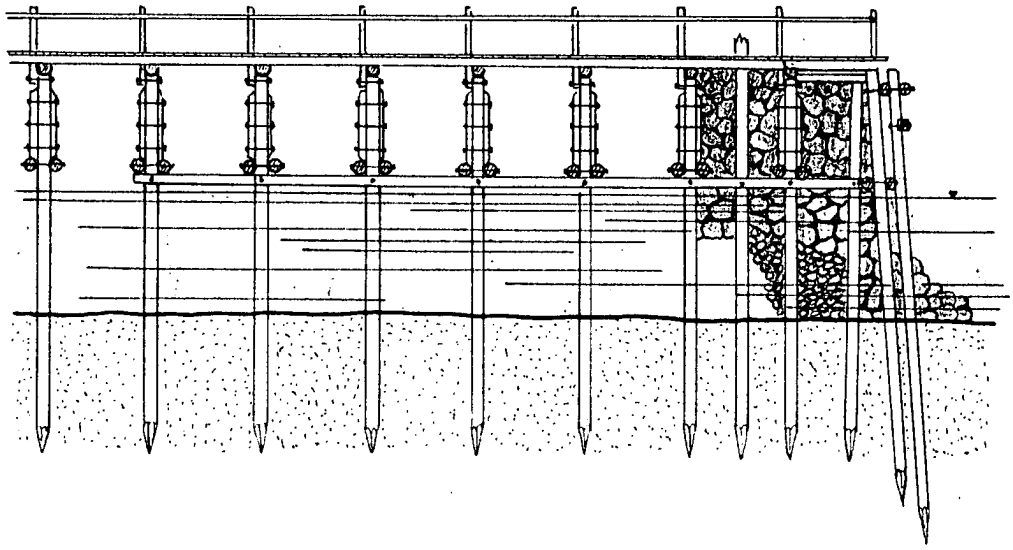
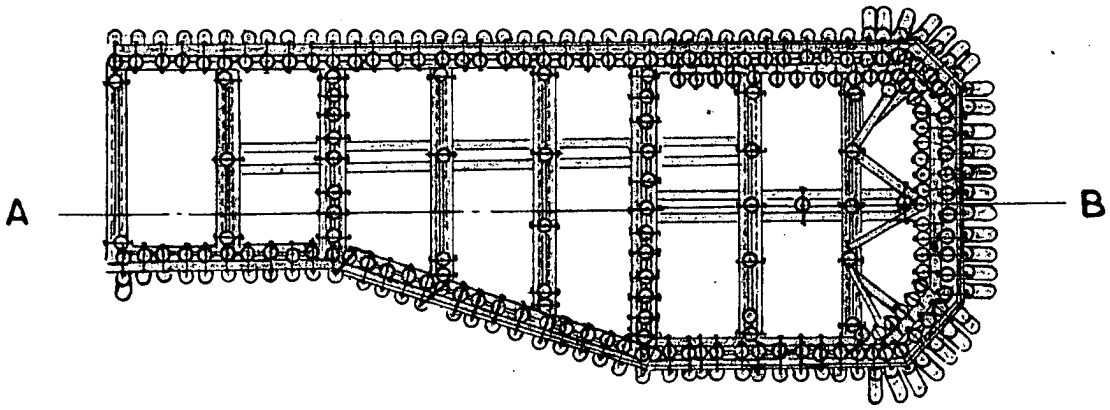
*) Technika 1933, 288.

SECTION A–B



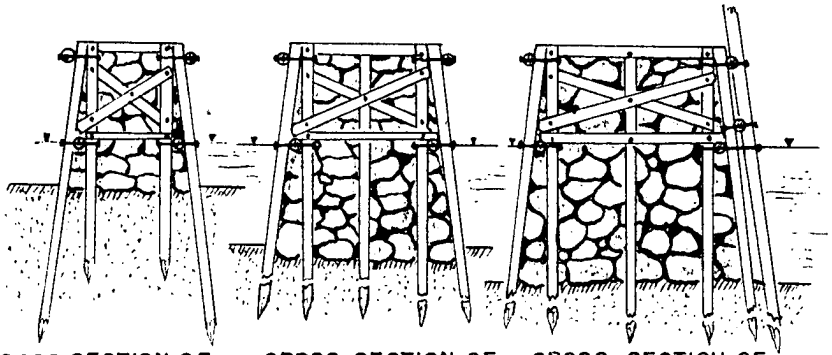
TOP VIEW



34 CONSTRUCTION OF THE HEAD OF THE SOUTHERN BREAKWATER IN ŠVENTOJI

SCALE 1" = 12'

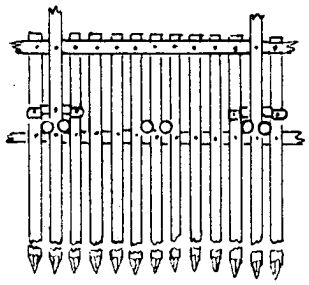
TECHNIKA 1933, No7, PG. 227



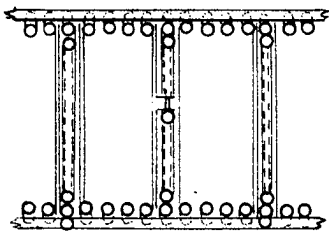
CROSS SECTION OF THE 3 M. WIDE MOLE

CROSS SECTION OF THE 4 M. WIDE MOLE

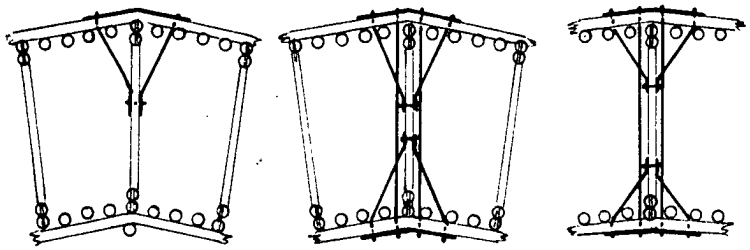
CROSS SECTION OF THE 5 M. WIDE MOLE



FRONT VIEW OF THE 5 M. WIDE MOLE



TOP VIEW OF THE 5 M. WIDE MOLE



REINFORCEMENT TYPES ON THE MOLES ON THEIR TURN POINTS

35 CONSTRUCTION TYPES OF THE MOLE OF THE SOUTHERN BREAKWATER IN ŠVENTOJI

SCALE 1" = 14'

TECHNIKA — 7— 1933, KAUNAS

Every 2.5 metres across the water break body were driven cross rows of piles, which with the walls of the water breaks formed closed boxes. The piles were reinforced with top and cross beams and bound to them with iron bolts. Thus made boxes were filled with the field stones, which were taken from the stony fields in the area around Darbėnai. The filling and the construction of the water break were not adequate and not complete, Even it was left a special opening in order to maintain a staedy current of the sea water thru the outer harbour , which in its turn had to wash away the accomulations of the drift sand in the harbours. This opening did exatly the opposite. The outer harbour very soon was full of sand banks and hindered the trafic very much. (see pg.103) . It was recognized that construction of the water break was a failure. It was going to help this situation and the opening"E" closed, anyway the construction of the body of the water break and its filling was a failure also and couldn't afford to stop the penetration of the drift sand into the harbours. There were driven wooden planks on the outer side of the breaks in order to protect the break from the penetrating sand and this step helped not much. Since than the problem of the blocking of the outer harbour "B" with the drift sand is a staedy trouble of the lithuanian and now, supposingly of the soviet lithuanian gouvernment. The wooden plank wall was constructed as long as 270m, or about 70%% of the wqter break length.

The mass of the drift sand brought into the both harbours in the period of the 1927-1930 could be estimated for 5-10.000 cub. metres (165.000 to 330.000cub. ') *)It was lerned that 1. directly thru the outer gate coming sand made 22/50 of that mass, 2 thru the water breaks 9/50 and 19/50 as sidements from the river.

The russian sources inform **) that in the period of 1930-1940 there were sedimented in the shore area at Šventoji 3-5 m(10 to 16.5 ') sand. There is nothing said about the period 1940-1955. Supposingly there are huge mases of drift sand accumulated around the outher harbour and the beach is far larger as it was in 1923.

More illustration are shown in the here attached Technika 1933 on the pg. 161(#28), 163 (#31)
169 (#47), 227, 228, 234 and 239.

bb. The northern water break "D" (see pg 116 and 115 here)

The northern water break "D" is of an secondary importance but the mistakes made in the southern one trained the constructors, and when the construction of the northern water break was proposed less stronger ~~it was as~~ the result was a better service ~~solid~~ as the southern one.

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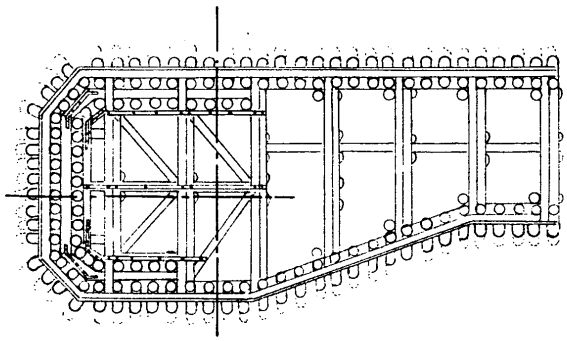
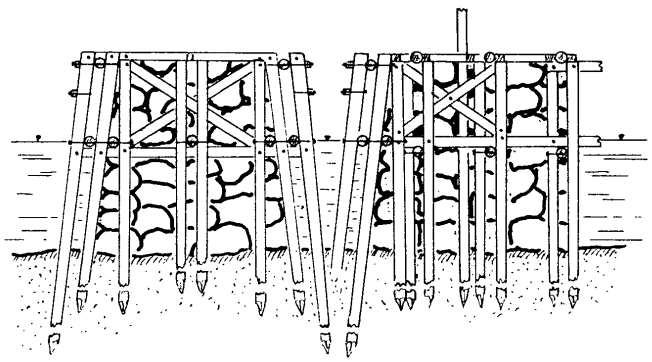
*) Technika 1933, pg. 159.164.173
**) K.Bieliukas. Litovskaya SSR 1955



TOP VIEW



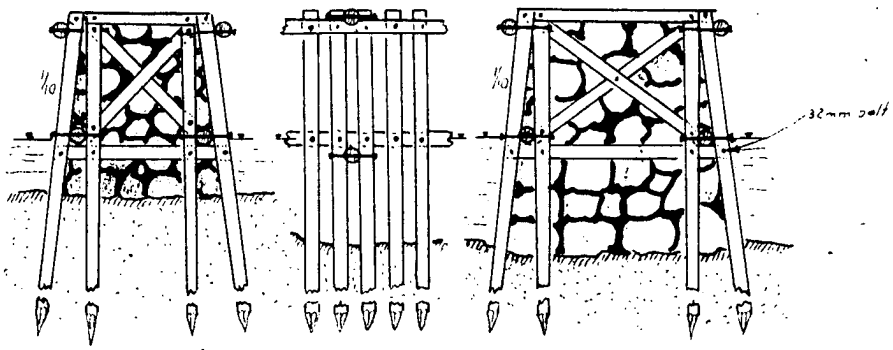
SECTION A – B

SECTION C – D

36 CONSTRUCTION OF THE HEAD OF THE NORTHERN BREAKWATER IN ŠVENTOJI

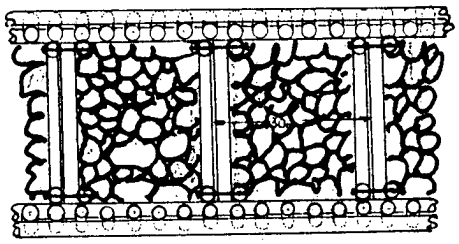
SCALE 1"= 14'

TECHNIKA 1933–7, PG. 230,231



CROSS-SECTION OF THE 3 M. WIDE MOLE

FRONT VIEW AND A CROSS SECTION OF THE 5 M. WIDE MOLE



TOP VIEW OF THE 5 M. WIDE MOLE

37 CONSTRUCTION TYPES OF THE MOLE OF THE NORTHERN BREAKWATER IN ŠVENTOJI

SCALE 1:200

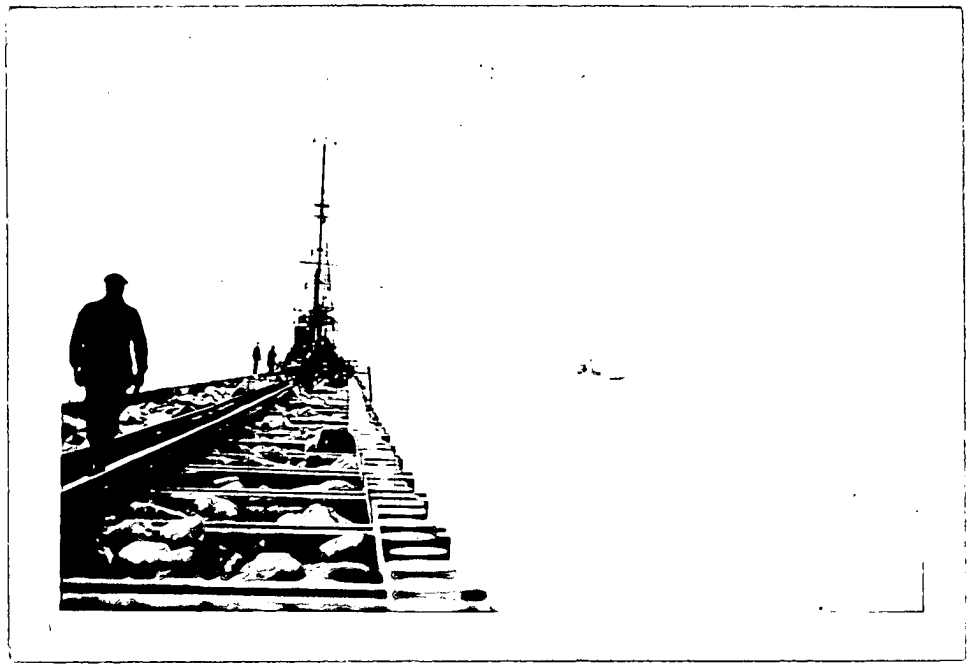
TECHNIKA 1933-7, PG. 229

This water break made good service also because the main type of the drift there is a gravel, which is hard penetratind triough t the structure.

It is much shorter 228 metres (about 750') lomg. The width and the construction same as of the southern one. It was constructed in 1926.(see pg. 118)

c. The material spent for the both of the breaks.

Items	Southern one	Northern one
1. Total length	380 m.	228 m.
2. Total number of the driven in piles	1882 / 17.434 m	1202 / 10.026 m.
3 The total length of the driven into bottom piles	6.699 m.	4.490 m.
4Timber of 30 cm ∅ in longitudinal metres with ±10% of loss	19.071	11.015
5. The mean drive in metres of the piles into the bottom	3.56	3.73
6. Various beams, joints, crossings & other material 18-22-30 cm in ∅	4920 m per both breaks	
7 Special crossing beams of split timber of 22 cm in ∅	1253 m.	none
8. Pile shoes	4346 kg	none
9. Bolts, edge reinforcing, angles, joints, bars	20.000 kg	12280 kg



38 The top view of the northern water break in 1938
On the horizon the homeless lithuanian coast guard ship Prezidentas Smetona".

10. Field stone fill	8.000 cub m.	4.000 cu m.
11 Galvani zed nails with 10 cm caps	35.000 pieces	21.870 pieces

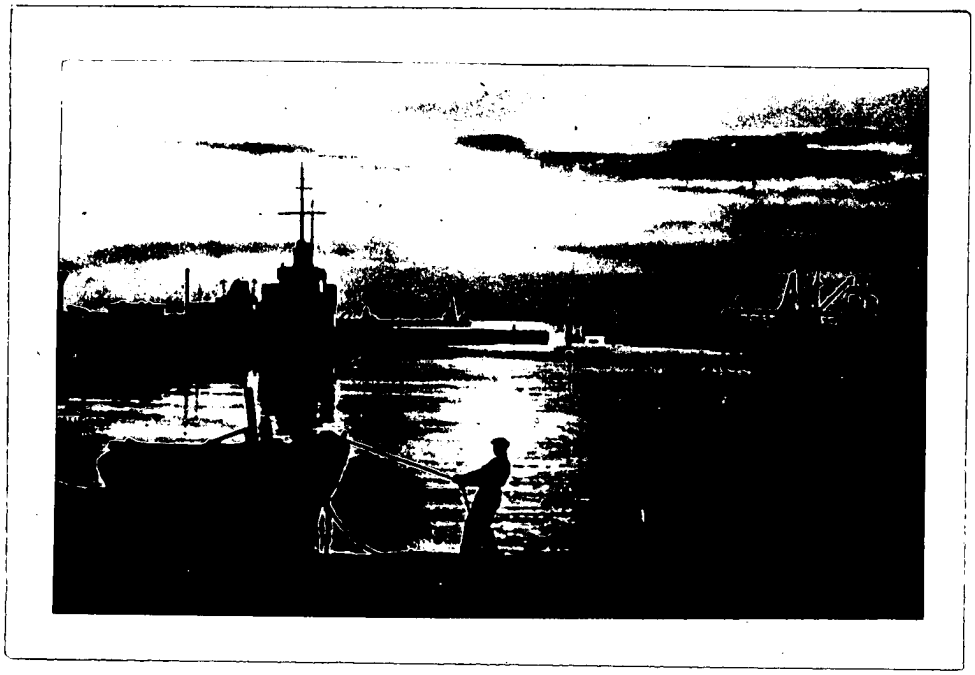
d. The channel "H" (see pg 120 here)

It was proposed to make it 3-3.5 m (10-12') deep. This was obtained allready in 1939-1940. Beside of the fishery harbour "J" this channel is the deepest part of the system of the fishery port. It was used mainly for maneuvering, but some auxilliary vessels(drag ships ect) were stationed here over the winters. In the 1939 there was excavations up to 14 ' deep. The mud and fine sand drift of the Šventoji river is not abundant and after dam and lock "M" was constructed, the sediments setting below them is not high and supposingly this channel was easy to clean for russian soviet gouvernment after 1950.

It is about 100 m. (330') wide. Their banks were reinforced by the simple driven wooden planks, without to be used for the lashing of the boats and other like vessels.

e. The moles of the interior gate "F" and "G".(see pg 120 here and the drawind on pg. 101-103)

They both were constructed in 1931-1932*). The southern mole "F" was 105.5 m (350') and the northern "G" -112.02 m(370 ') They were constructed of simple wooden planks driven in two parralel rows in 2-2.5 m distance and closed on the end by the cross row of piles of the same type. Both rows were reinforced by cross beams and filled with the shore sand. The surface of the filling was paved with field stones.



20 The general view of the channel "H" and the interior gates from east.

For
Their constructions was spent up to 348.000 Litas(35.000$).
They protect the entrance to the channel "H" pretty good. *)

f. Fishery harbour "J" (see pg. ~~XXXXX~~ 122 and 123 here)
It is the most important part of the port, for here were proposed to keep the fishery fleet and to develop the main operations. The number of the fishery motor boats was proposed as high as 100. They were still in 1944 very different in types and power. Some were equipped with the motors of 5-10 HP. 6-12 m of length. There were some sail boats. The small and primitive sail boats of poor fishermen were kept direct on the beach, wher from they took for sea, if the weather was favorable.
The proposed depth was 2 m(6.5'). It was obtained in 1930. In 1939 (summer) the large part of this harbour was excavated up to 14' and was suitable to accept the vessels with the loaded sinkink of 12 feet. Even now supposed this part to be not under 10 feet, because of minor sediments in the ~~xx~~ by the lock and dam checked river.
The width of this harbour is 75-80 m(250- 260') and is large as 1 ha or 2.5 acres. the length 150-160 m,
On both sides of the harbour are constructed quais (see below) and here ~~xxxx~~ is the bussiest part of the fishery port. Here are stationed over winter the main vessels, belonging to the port.

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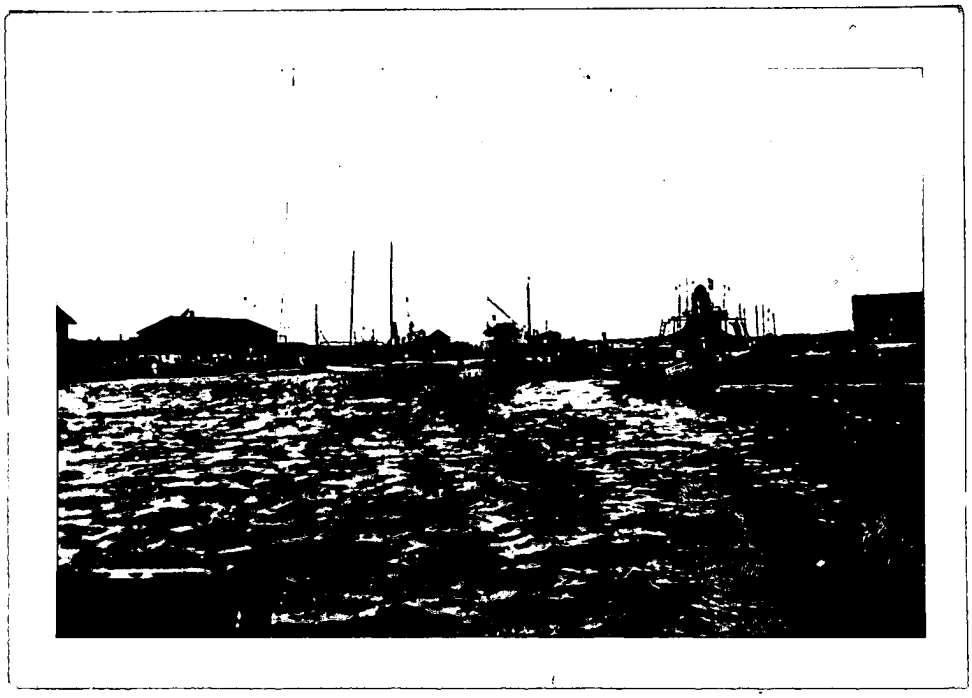
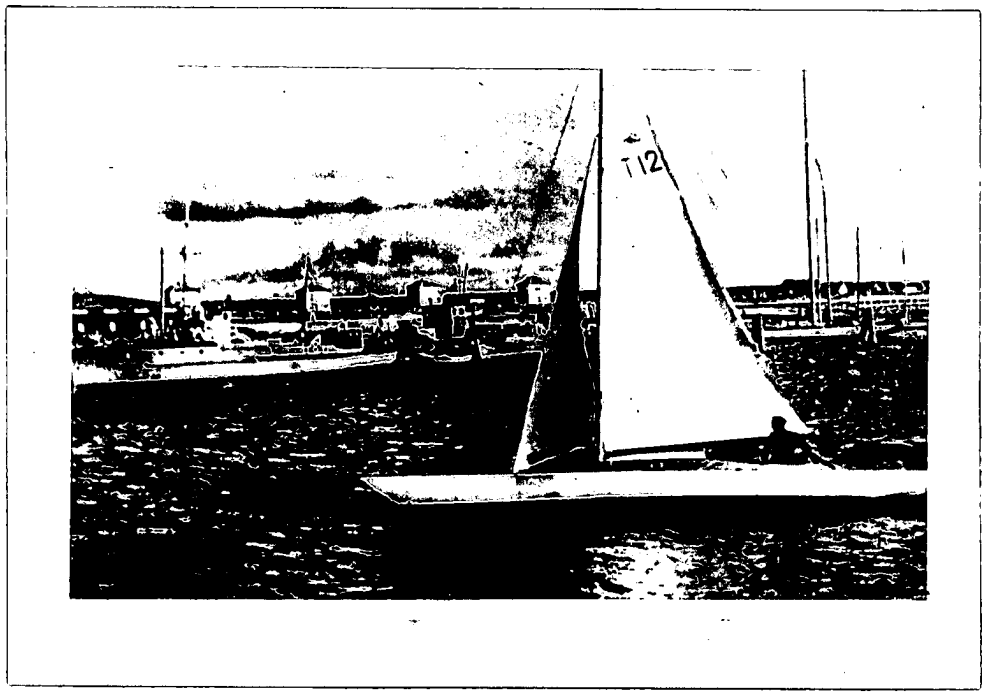
*) Technika 1933, pg 294.



40 The fishery harbour "J" in autumn 1939 in Šventoji. looking from interior gate.



41 Fishery harbour "J" in autumn 1939, looking from the channel "H".

g. The back harbour "K" (see drawing on the pg 101-103)
It was natural Sventoji river bed and was practically untouched till 1939. Against the main bed of Šventoji river north of this harbour it was closed by the lock and dam "M".The dam was 82 m and the lock 12 m. long (270' and 40'). Above them was a wooden bridge constructed to ~~bind~~ connect the Šventoji Island with the main land. The goal of the dam and lock was to keep the river mud amd sand away from the operating areas in the fishery port water areas.
This harbour is 420 m. (1350 ') long, 80 m(260') wide and 3.4 ha (8 acres) large. The depth in 1938 was 1.5 to 2 m. (5 to 6.5').
In 1939 was going to construct on the eastern bank a quay and a normam gauge rail road station was proposed to build there (see chapter about quais below) .
The southern bank of the curve between this harbour "K" and fishery harbour "J", was reinforced with stonex pavement .

h. The quais.
The previously stady active and changing water table of the Šventoji river in its lowest part(outlet), caused ~~by~~ mighty sand banks ~~brought~~ formed by the SW storms, ~~and~~ than a rising ~~of the~~ water table in the outlet, made the construction on the low western bank of the fishery harbour "J" inpossible. The sand dunes in this area were low , destroyed by the wind and water. It was dangerous to make serious construction there. Anyway the first quay for the lashind and launching of the fisher boat fleet was

here first. This was started to construct in 1925 and finished in 1928, like the construction of the reinforcment of the s southern bank of the Šventoji river loop between "K" and "J".

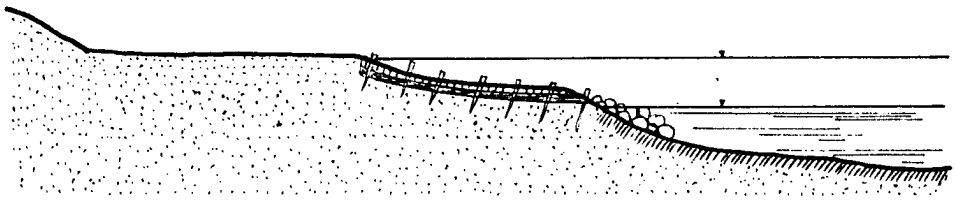
ha. The reinforcement of this loop , finished in 1928, (see pg 126 here) consisted of a lyier of the field stones 30 cm (12 ") in & put above and below of the mean water table of the Šventoji river. The reinforcing above the line was specially carefully done in order to protect the loop banks from destruction by the high water. Here in some cases the stones were put (worked out ones) on the preliminary lyier of the juniper twig bundles.(Type "A" on the pg 126)There are 40 m. long reinforcement of this type. The other120 m (395 ') were of type "B". In 1938-,1940 all the southern bank of the loop was reinforced this way of the stone pavement up to the Dead End lagoon"L".

hb. The left hand bank of the fishery harbour "J" in tthe period of the 1925-1928 was reinforced with wooden plank piling, (which in their turn were) reinforced by mean of the steel bars . Above the piling the slopes were paved with worked out (stones) (hewed). The piling was driven into bottom 1-1.5 m, than bound in the normal water table line with cross beams. The surface of the graveled quai road was rised up to 1 m. above the maximal water table line(see pg 127 here).

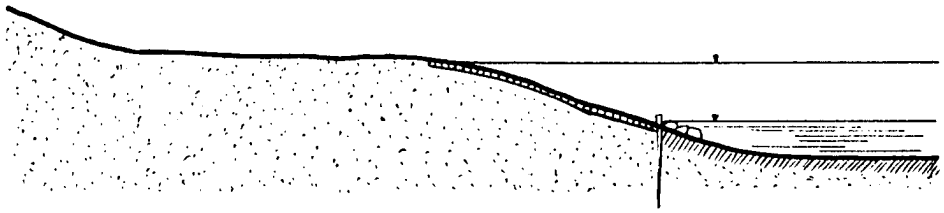
This construction was 120 m (395 ') long.158 m (520') long

The pilles were used 6 m (20') long and 18 cm (6.5") thick

The quai road was paved with the field stones and all con-



TYPE "A"

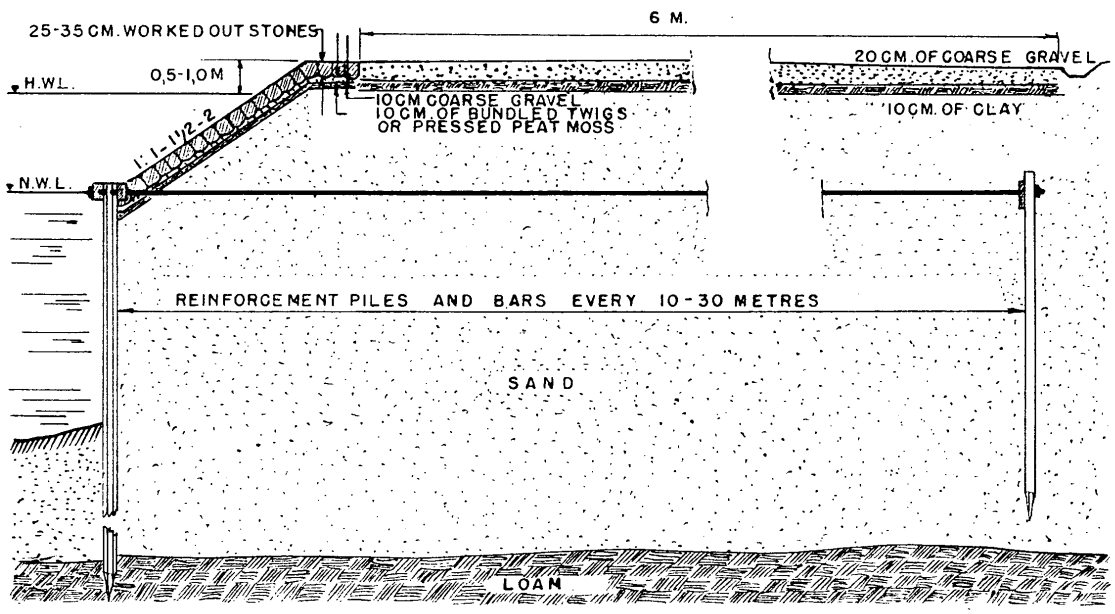


TYPE "B"

42 REINFORCEMENT TYPES OF THE ŠVENTOJI RIVER BANKS

SCALE 1" = 10' ~ 3,0 METRES

TECHNIKA 1933-7, PG. 247



43 CONSTRUCTION OF THE LEFT HAND RIVER BANK OF ŠVENTOJI IN FISHERY HARBOUR

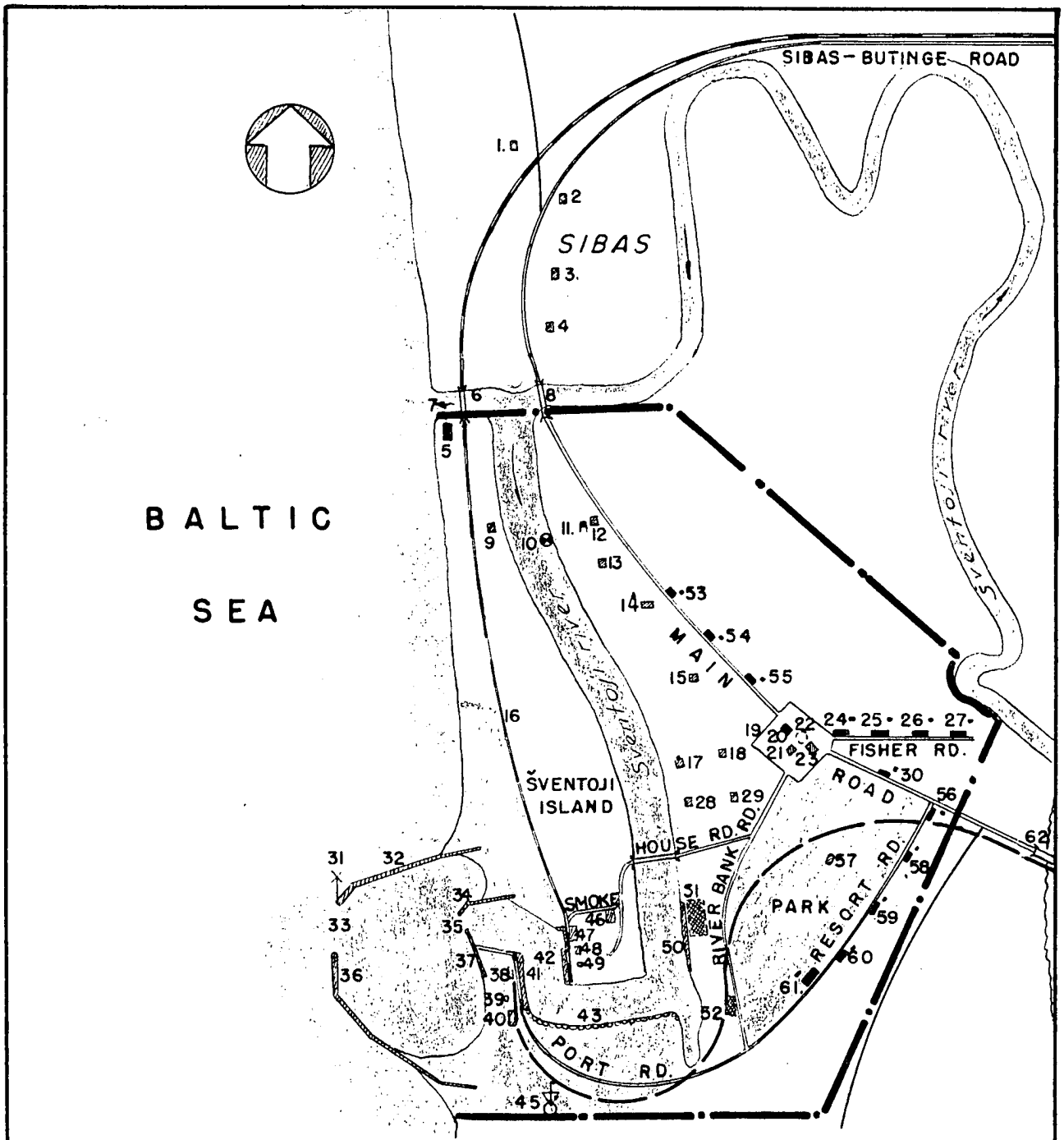
TECHNIKA-1933-7-PG 249

sruction is pretty solid and adequate to perform the necessary operations in the fishery harbour. (see pg. XXXXX 129)

c
h) The eastern quay of the fishery harbour "J", see pg 129 .
In 1938-1939 was constructed the eastern quay of the same type that was constructed 158 m of the western one. Here was translocated the narrow gauge rail road tracks and a terminal station established there. The connection with the main land was accomplished by the graveled road and the wooden bridge over dam and lock.(see scheme pg.130.) It was the bussiest quai in 1938-1944 . There were constructed main dwelling and storage costructions. The pavement was elevated abt 2 metres above the normal water table.

d
he) The eastern back harbour quay.
In 1939-1940 were reinforced the remnant southern bank in the loop of the Šventoji river with the type of reinforcement shown here pg 126, of type "A" and a new , the eastern quai on the east shore of the back harbour ("K"), was started to construct of same type as it is shown here pg.129. It was proposed aw long as 150 m. In 1944 it was still under construction.
This quai was proposed as a latter fishery harbour and a normal rail road station (terminal) was proposed to construct there (see sheme pg.130 item # 52)

44 The eastern quay of the fishery harbour "J", 1939.



45. MAP OF THE DESIGNATION OF THE CONSTRUCTIONS IN THE PORT & TOWN OF ŠVENTOJI - 1944

SCALE 1" = 1 6 MILE = 880'
(SEE KEY ON THE PP.)

Accordind to the russian present informations*) is now a fishing canning factory woring in theport of Šventoji. It , supposingly, is constructed wher it was projected in 1940-1941. Supposingly the mentioned here quai is at present finished and is in use.

6. Reinforsing of the sand dunes

The dunes between the fishery harbour "J" and the sea , some area north of the channel "H" and south of the Port Road (see scheme pg 130) were reinforced with the plantings of sand dune grasses, willow bushes and the pine plantings. It was planted and seeded , beginning in 1925 and kept thru to 1939. Some 40 ha area of the sand dunes was reinforced. This reinforcing was on same places destroyed and replaced with new seedings and plantings. Generally the plantings were succesfull one and at present could be supposed that all the sand dune area around the Šventoji fishery port could be under a pine forest. The late indications of the soviet lithuanian forest officials show that the sand dune reforestation is still the trouble child of the lithuanian forestry. It is very possible that during the battles for Klaipeda in 1944 (octobeb) the large areas of the plantings were destroyed as it is the case of the dunes on the Curonian Peninsula . in january 1945.

In early thirties was started to plant a park (see pg 130)

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*) K. Bieliukas , 1955 Litoskaia SSR.
**) Mūsų Girios#2 ,1957 pgl.

The park has been formed of pine (Pinus sylvestris). If it got saved from the war destruction, there should grow the 25 years old pine stand. (see pg. 83)

& The weather stand signalization (see pg 133 here)

To inform the fisher boat crews about the weather conditions there was constructed a simple signalization station, which was made of a wooden post with signs and the storage shanty. The weater stand informations were telephoned from the Klaipeda sea port meteorologic station and disposed after that on the signalization post in the day time with color flags and black balls and in the night by mean of color lamps . The signalization was of the german type, used since old times in port of Klaipeda.

Storm signals were set in Šventoji in the day time: *)

1 a. One black ball

Wind 6 to 7 balls strong. Direction undetermined.

b. Two black cones. The upper, tappered upright, the lower-tappered down.

The storm of undetermined direction (either SW or NW.)

2 One black cone , tappered down

Storm from SW

3. Two black cones, tappered down

Storm from SE

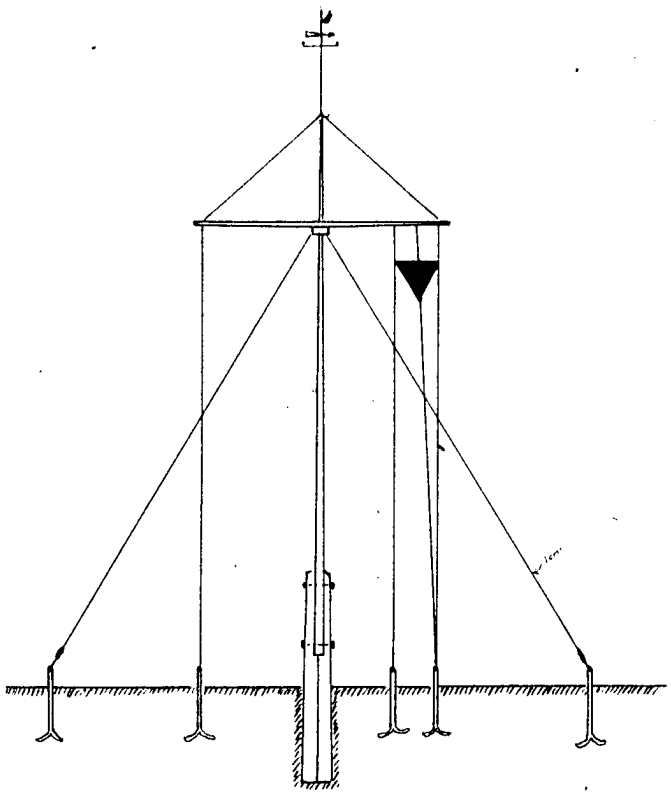
4. One cone tappered upright

Storm from NW

5. Two black cones tappered down upright

Storm from NE

*) Technika 1933, pg 175 & 266



46 SIGNALIZATION MAST IN ŠVENTOJI

SCALE 1" = 15'

TECHNIKA 1933-7, PG.266

The night signals:

1 One red lantern

undetermined direction of 6-7 balls wind

2. Two white lanterns one over an other one

Storm from SW

3. Two lanterns, the upper white, the lower red one

Storm from SE

4. Two red lanterns one over an other one

Storm from NW

5.Two lanterns. Upper one red, the lower one white

Storm from NE

At present it supposed to be changed to the russian signalization system.

8. The meteorologic station.*)

In 1925 and in 1926 a meteorologic station was active in Butinge as much as with a water table registration station there also. Since 1926 it was moved to the fishery port of Šventoji and located on the Šventoji island.

The russian sources at present do operate with the data taken from Palanga and Klaipeda meteorologic stations. It seems that at present there is no more meteorologic station in Šventoji. Probably the water level registration is still made in Šventoji.

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*)Technika 1933, #7, pg 164,165

9. The Light tower

In 1931-1944 there was ~~a~~ active light tower in Šventoji ~~active~~. It was installed at the farther end of the northern water break*) It was single wooden post (see pg 135 here) painted white . The acetelin lamp was set on the top of the post, which was 5.5 m (18 ') above the sea level and was visible as far as 7 sea miles (13 km).

The acetelin lamp produced light flashes :

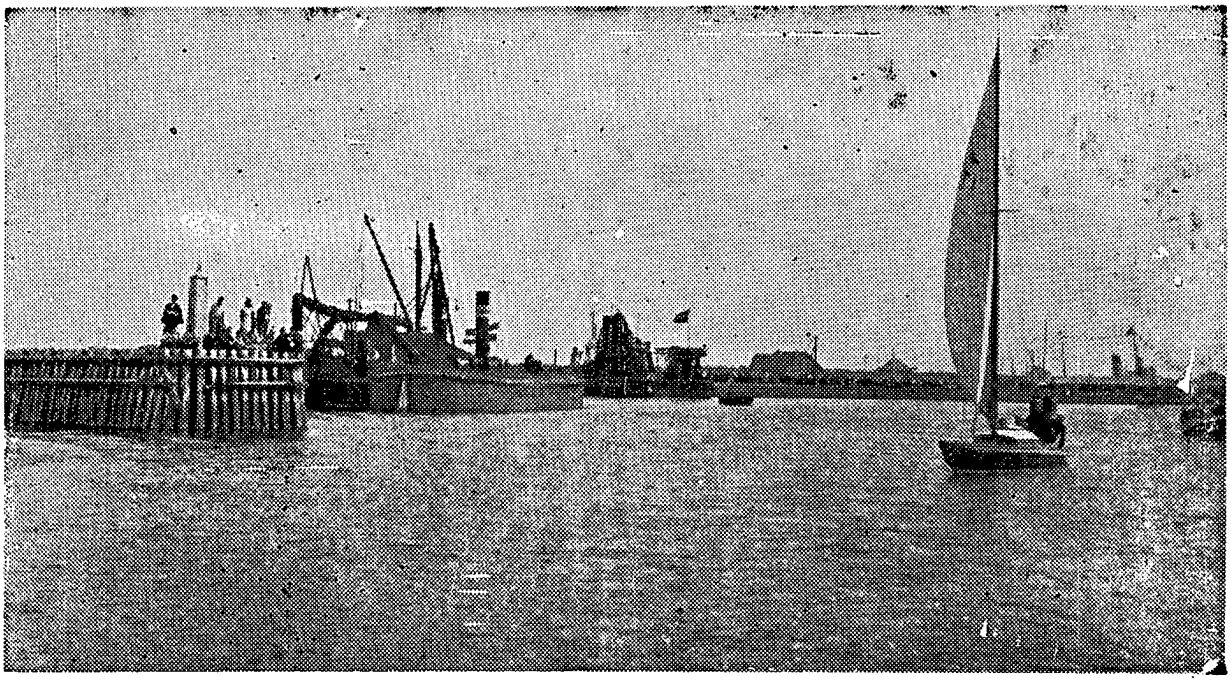
light 0.3 second

darkness 2.7 seconds long. The total tour was 3.0 seconds long.

The geographical position of the ligh tower was

56° 02' northern latitude and

21° 04 eastern longitude.



ŠVENTOSIOS UOSTAS Iš JŪROS PUSĖS

4/7 The light tower on the head of the northern water break (left) in Šventoji fishery port and general view of the port looking from the sea.

P A R T I V . THE FISHERY IN ŠVENTOJI.

THE FISHERY IN THE AREA AROUND ŠVENTOJI.

1. The Baltic sea and its resources.

The Baltic sea is a relatively young one and thru the ages has made several times a changes as marine or as a fresh waber formation.

The salinity of it is low- about 1% and in its northern portions has almost a chrakter of the fresh water lake even with the numerous representants of the fresh water ichtiofauna.

The ichtiofauna of the Baltic sea is poor on spe cies living there as the size of the individuals, which in other seas grow much bigger.

In lithuanian waters the ichtiofauna is represented by the about 60 species of fishes. Just negligible number of them is used by the commercial fishery. They count just 12 species (~~see~~ below). Among them 5 families with some 8 species deliver the bulk of the coastal fishery.They are:

1 Herihg family -Clupeidae:

a.baltic hering-Clupea harengus, var. baltica

b. spbatt - Clupea spratus

2. Flat fish family-Pleuronectes:

a. Turbot-Rhombus maximus and

b. Flounder-Pleubonectes flesus

3. Cod fish family -Gadidae

a The cod-Gadus morrhua

4 Eel family -Muraenidae

a. The common eel-Anguilla vulgaris

5.The salmon family-Salmonidae

a.European (atlantic) salmon-Salmo salar

6.Others families , which give the fishery few representants as smelt-Osmerus eperlanus and others, which have no importance to the commercial fishery.

Among the typical sea water fishes there are some times catched the fresh water fishes like northern pike,some minnows ect.

~~2. The fish production~~

The Baltic coastal waters of Lithuania are available to the lithuanian citizens(now of Soviet Russia) as far as 12 sea miles from the shores. Behind them there are the international waters where ~~xxxxx~~ is allowed for everybody.

Till 19~~xx~~44 the lithuanian fishers didn't use the international waters intensivelly, because the sea fishery was poor organized and the haevy equipment was just little available. The trawl net were going to use widely some about 1935.

The sea fish resorces were used to little and not uniformelly. The fish was abundant on the shores of Lithuania, and sea was underfished.

2 AREAL DESTRIBUTION OF THE FISHES IN THE COASTAL WATERS.

The destribution of the fishes depends mainly on the disribution of the sea food, which they use.

In 1928 the lithuanian gouvernment invited a danish marine ichtiologist Dr. Blegvad , who studied and described the food and fish destribution in the coastal zone of the Baltic around Šventoji.*)

* Technika 1933, pg. 180-181.

He drew this picture:

a. The zone of the 1-20 m(3-65') produces on the 1 sq. m. area of the bottom 1-4 grames of fish food. Here are growing the young flounders and the whole area has no significance for the commercial fishery, unless it is of big importance for the breeding of the young fishes and as the ground where the small fishes (smelt, minnows) are catches for the purposes of bait. The ground here is sandy and hard one.

b. Zone between 15 and 50 m. of depth bears about 20 to 80 grames of fish food on a sq. m. of the bottom area. The bottom is stony and gravely. This is the typical cod ground.

ba. Soft sandy bottom extends in the depth 20-40 m. of depth. H Here is the most productive zone, having rich and various fish food.

baa. 14 sea miles west from Šventoji in a depth of 26 m. there are 48 grames of the fish food.

bab 23 sea miles NW of Šventoji in the depth of 35 m. there are 54 grames of the fish food.

bac 29 sea miles in the same direction in the depth of 32 m. there were 20 grames fish food on the 1 sq. m. area.

c. Clay ground at 40 m. of the depth bears far less on fish food. Here is the ground ,where the adult flounders and some others species spent the winter.

3. THE BOTTOM FISH FOOD (BENTOS)

a. Molluscs : Macoma baltica, Mytilius edulis

b. Crusters : Idothea entomon, Commarus lacusta, Bathyporea species, Pontoporeia species, Corophium specie, Copepodae, Cladocera , Totatorea

c worms: Spenidae , Noreidae

This is the main species of the fish food bentos.

Among the plantal food are represented by the blue-green algas as Aphanizomenon flos aquae and others.

All this plantal food along with the microscopic fauna of crusters makes the chief flood of herings and spratts.

The other commercial species are either carnivores or use the bentos of molluscs. crusters and worms.

4.THE FISH PRODUCTION

The official data over the catches in 1926, 1932, 1935 and 1937 were as follows: ×)

Year	Cod Gadus morrhua		Salmon,		Flounder		Hering		Smelt	
	thousands of									
	lbs	Lit.	lbs.	Lit	lbs.	Lit	lbs	Lit.	lbs	Lit.
1926	276	85	25	49	33	12	80	36	173	95
1932	209	40	40	61	547	148	52	19	354	77
1935	760	61	13	14	284	69	5	2		
1937	1068	97			4	2				

× Lietuvos statistikos biuliteris of 1926, 1932, 1935 and 1937.

The catches are not uniform as much as quantitative as qualitative. ~~It~~ They were depends on the weather and the market demand.

5. THE COMMERCIAL FISHES

1 The most importamt commercial species is the cod. It grows 35-40 cm long, ~~XKX~~ 1 to 1.25 kg weight. The age at best of ~~limit~~ 8-10 years. His brother from the Iceland is about 2.5 times longer and 3-4 times heavier at the same age. Also there is it more fat as the baltic form.

The liver of the baltic cod is smaller as it has the Iceland cod. In Lithuania till 1944 was no cod oil production and all quantity used in this country was imported.
In 1941 a soviet russian ichtiologic kommision has visited Lithuania and interested very much for the production of this type. Now in Klaipeda is a fish canning industry working, which produce the cod liver also.

2 The second most important commercial fish is flounder. There are three species catched in the coastal zone of Šventoji but all they are considered by the statistic as one species, The baltic flounder is also smaller and less haevy as the North sea flounders.

3 On the third place is the smelt. It has just local importance and used by the native population in the coastal zone of the continent for food, bait or fertilizer.

4 The baltic hering is a dwarf form of the Atlantic hering and is not fat. Dispite of this, the baltic hering is perfect stuff for the canning industry, which produces various canned products, under various titels. This is along with the spratts

the most looked fish for the canning industry. The catches of the herings xxx vary very considerably, according to the stand of the weather. Sometimes they are very thin.

5 XXXXXXXXXXXXXXX The fifth is the spratt.
Their herds are rare on the shore waters of Lithuania and the quantity required by the canning industry imported chiefly this product raw or smoked from Latvia, Supposingly it is done at present also. They gave the most looked and appreciated canned fish-the spratts in oil, which is looked in the USA also and is imported from Germany and Danemark.

6. The sixth and very appreciated fish is the atlantic salmon. The catcher all time around vere never big. The salmon is a disappering fish and serious stepps are necessary to keep the salmon on the right level. Their raw , salted,, smoked and canned fish meat is very looked and good paid.

6. THE PRODUCTION OF THE SEA Fisheries UTILIZATION LEVEL.

Even in 1935 the Šventoji coastal fishery was managed very primitively, chiefly with the small sail boats, run directly from the beach. There were few solid , serious motor boats. There was no radio service , serving fishing fishermen. Generally the fishermen used to leave for sea rarely, not thrusting to much for the expirience of the aged. The suitable weater was rare, because the Baltic here is a stormy one. They went not far from the coast and couldn't use the farther , rich grounds.

On other hand the demand for the sea fishes was never a brisk one in Lithuania befor 1940.

The grounds were underfished and the production shown in the statistic didn't represent the possible and real production of the sea In the area around the Šventoji were before 1940 catched flounders 20 years of age, what is not normal and the part of the fishes grew old without to be cathhed and utilized.

7 FISHERMEN. (see pg 79, 82)

Fishermen were usually adult men, healty and strong enough to fight the sea hardeness.The youngest were usually 18 years old(not law but custom). Old peoples seldom went to sea.

In 1944 in the area of Palanga-Šventoji on the entire lenght of the lithuanian coast(17 km or about 10 miles) were active about 400 professionl fishermen. In Šventoji and close area around were abot 250 of them. All of them had numerous families. (5-7, even 8-10 not rare) and thus of the fishery lived about 2500 persons About 95% of the active fishermen were till 1944 curonians. and 5% lithuanians. The lithuanians xxx were chiefly farmers, who fished just as part time fishers.

There were no laws regulating the fishery, the limits of the age of the fishermen, fishing time or other regulations. Everybody could fish when and where he wanted. There was no relief for the suffering accidents or death at sea. Just in middle twonieth was established the signalization service and in middle of thirties some profesional-economical organizations grounded in Šventoji.

The only one old protection managed by the russian and than

lithuanian gouvernment one salvation station(see map pg 2 and pg 130, p#5), which was a brick construction ,as big as necessary to keep the single oar boat and spme tools (ropes, axes, hooks ect)Practically it ~~doesn't work~~ didn't helped not much.

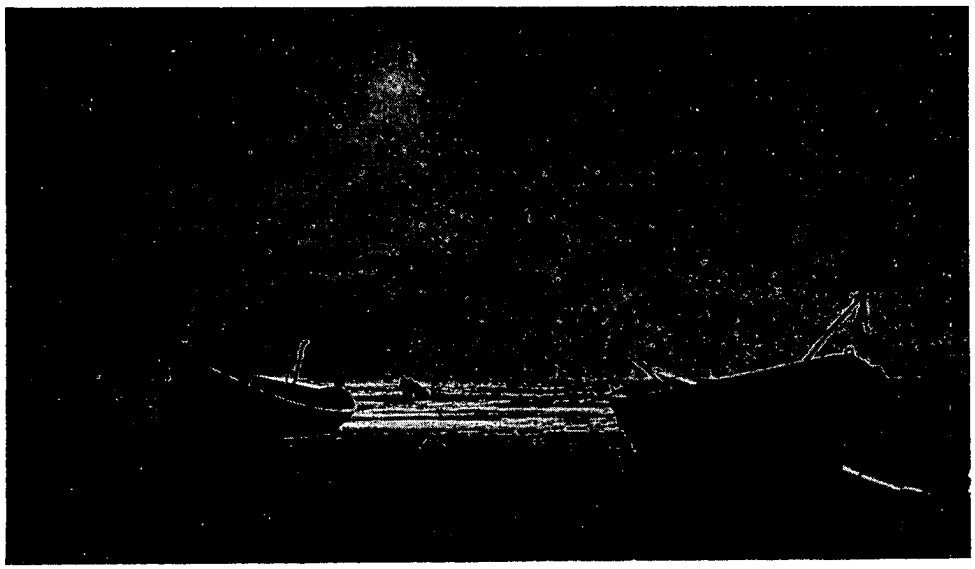
8. THE BOATS.

In 1937 *) on the whole length of the lithaunian coast of Baltic (autonomous district of Klaipeda excluded) of about 20 km were officially registered 101 boats. 70 ~~XX~~% of them were ordinary wooden small and haevy sail boats(see pg 145 here). Generally there were two small sails. They were 5-7 m. long and2.5 m wide with the sinking of 0.5 -0.7 m. They arre pulled out of the sea by mean of the hand wintches or by hands, using wooden rolls, or power of the horses. Idle boats are usually bound to the special piles or biger stones on the toe of the dunes. IN stormy weather they are pulled out sometimes into the depressions between the dunes, which are usualy the roads home also.
As mentioned before in the native language the beach spots, where the boats are kept idle are called "Valgoms".

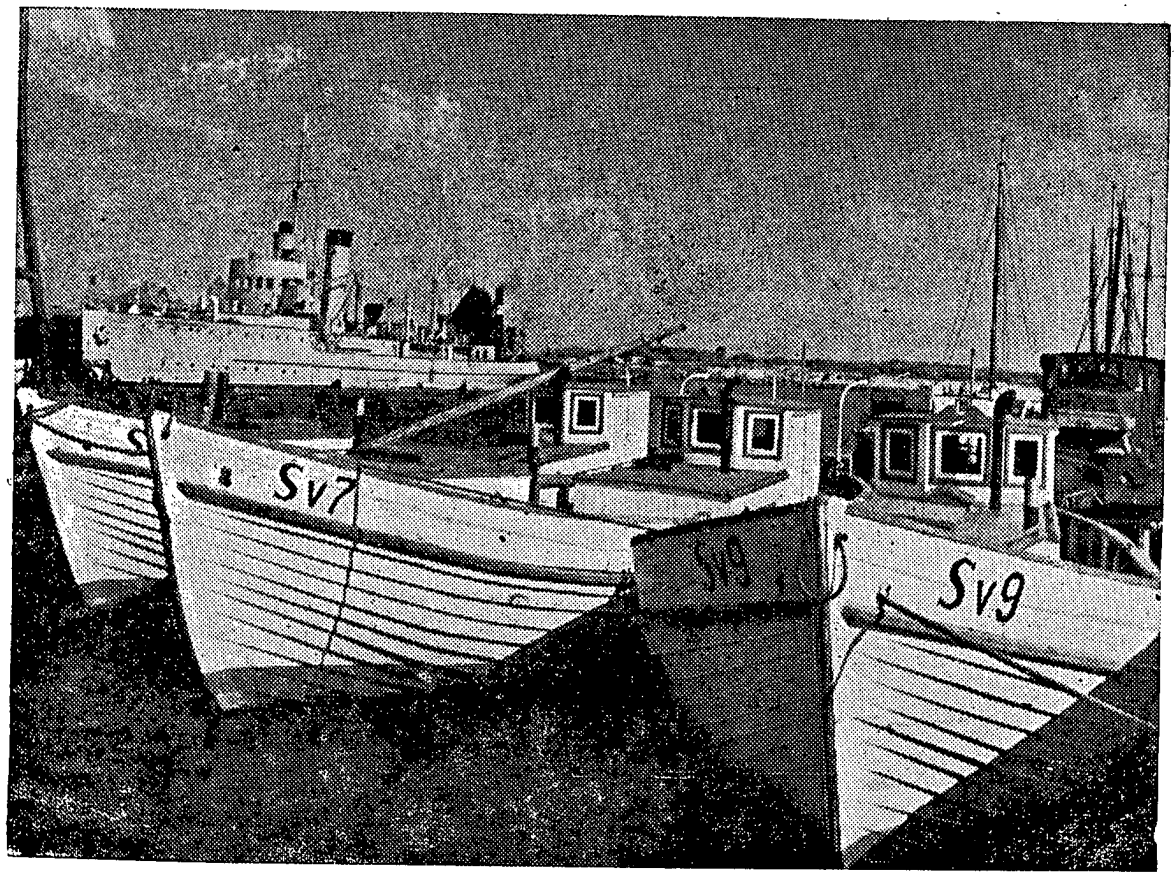
The construction material were oak planks and brass nails. Most of curonian fishermen are able to construct such one boat by themselves, but chiefly they are constructed in Latvia, where special custodians keep it as ocupation.

The other type of the sea vessels are the motor boats, which carry the name of "Kutter".They were as numerous as 30 %%. They were of different construction, size and the power of the motors.

*) Lietuvos statistikos metraštis 1937, pg 164



48 Typical small fisher sail boats on the beach of Šventoji, 1939.



ŽVEJŲ KUTERIAI ŠVENTOSIOS UOSTE

49 The gouvernment build fishery motor boats-kutters in Šventoji port in 1939.

The other type of the kutters were private motor boats of the curonian well to do fishermen. They were of very different construction, size and power. Generally they didn't exceeded the gouvernmental built kutters and in average were some shorter as they ones, but constructed plump and haevy. They had ores if the sails were without use. Besides of a bigger sail they had 5-15 HP motors, driven mostly by the raw oil or kerosene. Equipment was of lower quality. There were no institutions , which could help with the cheep credit to the private fishermen and therefore private fisher kutter fleet was pretty poor. There were about 10-12 such kutters.

The third type of the fisher boats was the small sail and ore boats with quite weak motors of 5-7 HP. The motors were here just additional power to the sails and ores. They were just few.

All here described kutters have very appreciated the use and the protection of the port of Šventoji.

Because of usual blocking of the gates with the drifted sand, just the smallest were able to pass thru the such banks. The others kutters oftenly were forced to stay home ,till the drag ships made again the straits clear off sand.

9. Fishery equipment and the fishing methods.

In the 1937 the fishery equipment of all 440 lithuanian coast fishermen was :*)

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*) Lietuvos statistikos metraštis 1937, pg 164.

a. boats 101 *)

b. nets 448 (chiefly gill nets)

c.line hooks807.500 units (hooks)

d.small pulling nets
53 (trawl nets included)

e. bow nets 9.

The nets are chiefly gill nets used to catch the baltic hering. (see pg 150). Those cotton nets were always imported from Germany and sometimes from Sweden. There were also home made flax gill nets. The bought nets were installed in the country by the same fishermen.(korks and sinkers). Mainly they were 25 metrs (82') long 5-10 m. wide and were bound together for some kilometers lomg. The mesh sizes were usually 10, or 15 mm.

The herring flocks are not staedy available and sometimes there are no herrings at all at the lithuanian coast. even for few years.

The herring main catch is in winter, sometimes in spring and some herring are cathed in summer.

The herring flocks are thin and the herring cathes are usualy not abundant.

The herring gill nets are expensive and the stormy sea often destroys them and ruins the owners.

The gill net of eveh smaller mesh size were used for the catch of the rare on the lithuanian coast spratt (Clupea sprattus).

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*) All here shown figures consider just the lithuanian coast, the coast of autonomous district of Klaipeda excluded.

50 Good herring catch . The duty to take out of the fishes is of the fishermen wifes.

b. The most significant type of commercial fishing in the coastal waters is the cod catch on the hook lines. Few kilometers long strong cotton stings(like the cotton nets they were used chiefly preserved with catechu compound) are equiped with short cotton lines and hooks. The hooks were imported from Swden. and the lines from Germany. In 1936 were about 1.400.000 hooks in use, in 1937- 800.000.

With the lines were caught chiefly cod. They are used to catch salmon and halibut. also.

The cod , which is here 30-35 cm. long is cauth ~~in the~~ as far as 15, even 30 kilomeres(10 to 20 miles) from the shore. The main season for cod is spring, summer and autumn,The bait is used of smelt. It is caught in the coast water from the shore, using small pulling nets, driven by the hands. (see pg. 152)

The salmon is there very rare and its cathes grow smaller . Its catch is comlicated and a hard job, because it is to catch 70, sometimes 100 miles(100 to 160 kilometrs) away from the shore. The season is winter. The fishermen have to spent on the sea therefore sometimes 5 days, usualy 3.The hook lines for this purpose are strong, hooks strong also. All Installation is expensive. It stays in water as long as it is destroyed by rottenness. This can afford just prosperous fishermen. Catches are small. On the hook lines are caught the halibut. Its cathhes are negligible.

c. The bow nets are used to catch lampreys(Petromyzon fluviatilis) which comes to Šventoji river to spaw. It comes in autumn, stays over the winter and spaws in spring. Former there wase very good catches available, but in present lampreys are in declining

5/ Fishing for the bait. The gapers make the crowd.

d. Drag seines were few in Šventoji and they were used very limited to catch floundres, when the weather was good one.

e. Trawl net are new equipment, used in Šventoji since 1936. They are 50 m. long, 20-25 m. long bag included. They are expensive and were introduced properly just on the by the gouvernment built motor boats. They were cotton and imported from Danmark or Germany. The chief catches with the trawls were cod, flounder and herring. They were very productive. There were 15 trawls in Šventoji in 1941.

10. The catches, their values.

Depending on the weather at sea, the catches were very variable. Some years were especially favorable (1916-1918). The worst year was the 1925 , which ruined many weaker fishermen and caused hunger The official statistics are very inaccurate and show always lower cathes as it were instead. *)

In 1932 was caught 345.000 kg.
1933 715.000 "
1937 435.000 "
1938 717.000 "

It could be roughly estimated that the mean annualy catch was 750.000 to 800.000 kg. **)

**) Estimate of author.

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*) In 1941 (winter) the catches were registered accurately, because the salaries of the fishermen were figured out of the delivered weight. They showed in 6 months as much as in was former shown for whole year. Author.

The gouvernment effort to construct and maintain the fishery port in Švenoji caused that each next year the catches were rising. Thus in 1941 for 6 months were produced 820.000 kg. fish meat. Not the bad weater alone made it that the catches some years were low. The economical situation of the country and the demand strongly regulated them. Sometimes fishes were abundant, but the low prices forced the fishermen to keep off of wider production.

The average catch for one fisher boat in an year was as high as 7.500 to 8.000 kg. (7.5 to 8 metric tones) of fishes. One boat was maintained by three fishermen families and thus one family used to get annually about 2.500 to 2.700 kg. of fishes*)

The average prices for one kg were about 1 Litas(sometimes far below of this)or 10-14 USA cents.The average family consisted in Šventoji of 4-5 persons and thus a person received in an average year 500 to 600 Litas or 70-85 USA dollars. Thus the fishermen were very poor. They joked that they are as long not hungry as they had wet pants of fishing.

11. The prices.

The itimized prices of fishes loco boat were:

50 kg. of cod 6-7 Litas

*) There were no ousters or lobster fishery in Šventoji. Author. The figures are taken from Technika 1933.#7, pg 178 show this amount for 3000 kg a family.

50 kg. flounders	20-25 Litas
60 individual herrings (about 2.5 kg)	0.5 Litas
1 kg salmon	3-5 Litas
1 kg lamprey	1 "
50 kg smalt	1-3 Litas
1 kg eel	1-1.5 "

Generally the average price for the fish production of 50 kg. was as high as 7 to 10 Litas and the all annualy production of 800.000 kg run for 110.000 to 160.000 Litas or about 600 Litas per one family. In the same time a english fishermen earns (one family) about 3.300 Litas *)

XX

12. Fishing seasons and fishing distances

The most important for the commercial fishing in Šventoji seasons are spring and autumn.They provide the most abundant catches. The best seasons for the individual fish species were **)

1. Herring	spring (Mai, June)	25 %
	autumn(Oct. Nov. Dec)	75 %
2. Cod	spring(Mai thru august)	50%
	autumn	20 %
	winter	30 %
3. Flounder	summer (June, july, Aug.)	90%
	spring (mai)	5 %
	autumn (sept. oct. nov)	5 %

*)Technika 1933, pg 179.
**) Lietuvos statistikos metraštis 1939

4. Salmon	autumn (sep. oct. nov.,)	60 %
	spring (apr. mai, june)	3 %
	winter (dec,jan. feb. march)	7 %
	summer	30 %
5. eel	autumn (oct. nov.)	67 %
	summer (july, aug.)	28 %
	spring (march , apr.)	5 %
6. smelt	winter (nov. dec.jan. febr)	80 %
	spring (march, apr.)	20 %
7. Lamprey	spring (march, apr.)	50 %
	summer (july, aug.)	10 %
	autumn (oct. nov.)	15 %
	winter (dec. jan. febr.)	25 %

The average annualy number of trips made by the individual fisherry boat is variable :

in spring and summer 20-30 trips

30-7--100 km distance from thecoast.

in autumn 10-15 trips

20 km. distance from the coast

in winter few trips

70-100 km away from the coast. The trip takes 3, even 5 days. There is a salmon fishing. Generally in winter the sea is with no fisher boats. *)

On holidays and sundays there is no fishing.usualy.

* Technika 1933, Nr 7., pg. 178.

13 Fish sale and fish industry. before XXXXXXXX 1940.

The fish production, as it was mentioned above (pg.154) was restricted by the very limited demand on sea fishes. The user of the sea fishes are mostly the coastal population itself, than the main land. The low buying power of the lithuanian population some years hindered the production very much.

The fishermen sold their production directly from the boat. Only few fishermen, who owned the small smoke houses, kept some production for themselves or for sale as worked out production. The financial power of the such fishermen were very limited and many of them worked in smoke house for the merchants.

The merchants were poor jewish . They had no adequate investations and money. They used to buy the catches, to transport to Palanga or XXX Darbenai and there procceded to final sale products.

The most of the catches, especially of the more valuable fish(herring, flounders) the small merchants transported over the coastal zone of the mainland up to the Telšiai on the horse carts or slides and sold for the population(chiefly jewish one) . Their profit was negligible source. Behind the 70 km coastal zone, the raw fish was not sold by those merchants. In summer was the sale slow.

The fish industry was poor one. In Šventoji were few small smoke houses, which smoked herrings , cod and flounder , eel, spratt . There were no serious ice houses and the fishes had to be sold or worked out quickly.

In Klaipeda was a gouvernment controlled fishery establishment, managed by deletamts(not profesionals) which had a smoke house and an old fashioned ice house. The production of all those smoke houses was poor and not attractive. It was bought only by the poor population and jews.

The fishermen, who used gouvernment built motor boats, had to deliver the production to the gouvernmental institution "Zuvies Co#" in Klaipeda, which had a brahch in Šventoji.

Generally the demand on fish was in the country pretty high, but it was not for sea fishes of own production. The taste of the average man was for lake and river fishes(fresh water ones). The market was very poorely organized and was not dependable. Much spoiled and falsed fish come to it . The population was very distrustfull and the fish market in Lithuania has switched to the alive fishes, which were very expensive.

The sea fish production as raw and as proceeded(smoked, salted ect) was poor, not attractive with bad smell. The mainland didn't buy it willingly. To support the sale of the sea fish production, gouvernment had tried to force some institutions to buy this one. Thus in army, dormator ies, prisons was introduced a "Sea food day", which collapsed on the Sea fish ~~riots~~. strikes.

The gouvernment put some efforts to establish better smoke houses, even canning, but it was just in projects.

Besides of the smoking houses, some fried fish production(lampreys), there were few canning shpps with a low canned fish production, which worked mos tly with imported(from Latvia) fish, chiefly spratt. and fresh water undersized fish

The most looked and best paid was the salmon, which was very rare and was subject to export. It was smoked.

The next valuable fish for the canning industry was the herring It was very popular and sold as much as raw, smoked and canned under various titels and under the names of others valuable fishes. The baltic herring is small and therefore fits very good to the canned products and to imitations of other fishes. The catches were irregular and sometimes it was even imported from Latvia.

In Lithuania were produced every year in average 2.500.000 kg of fish meat, of which about 1.000.000 of the sea waters. and 1.500.000 to 2.000.000 in the fresh waters. Besides of its own production about 0.8 -1.0 kg per capita and an year, the lithuanian population consumed every year about 11.500.000 kg of (Chiefly) salted herrings from England. Thus a man , an year consumpion of imported fish was about 5 kg , or five times higher as of own fish.

An other very important product of canning industry was spratt. It was eagerly looked and good paid. The spratt went as a smoked fish in delicattesen oil.of 0.5 and 0.25 kg. size cans. The raw stuff was mainly imported from Latvia and rarely catched by the Šventoji fishermen, because the spratt flocks approache the lithuanian coast iiregularely. It appears just in winter (end) when the fishing is very hasardous.

The lamprey was very looked fish, which came as fried one in a special grave.

The flounders were usually smoked and thus sold all around the country. Same was with the eel.

The most troubles made the chief sea fish -the cod. He has a not pleasant odor and therefore consumed just by the sea coast population. It comes as salted and as smoked fish. The smoked fish had a limited demand in the main land, but the salted and raw one were very hard to sell. It was tried to force some institutions to consume the cod(see pg. 158)but the attempts failed.

In proper Lithuania were 2 small canning shops, which preceeded the canned fish. They consumed for its production chiefly

of
vegetables and the fish canning was the secondary importance.
In 1939 this fish canning industry has consumed 44.000 kg of raw baltic herring, 51.000 kg of fresh water fishes and 17.000 kg of oil.
For smoking and canning industry were used thiese fishes:

60 % of herring catch, 70 % of lamprey
100% of spratt 60 % of cod.
100 % of salmon

The remnants went as raw fish for sale.

14. The Šventoji fishery in the first russsian occupaxxxtion. 1940-1941.

a. Reorganisation of the fishery.

The first russian occupation lasted only one year. In 1941 the germans have drove them back.
After russian invided Lithuania, they started at once to reorganize all economic life according to the their principles. Same was with the fisheries. Since first days of their rule, they have transfered the all Šventoji fishery port to the special orfganization, established in Riga (Latvia), which was ~~xxiixx~~ a branch of Narkommorflot or The people Komisariat of the marine Fleet.
The branch of this Komisariat was in Riga and managed by the latvians. Latvians all time were very disguested over the construction of the Šventoji fishery port, which in 1939 was started to be rebuilt to a commercial one. Now they were the bosses of it and ~~xx~~ their first step was to close the port, to block it with the stones as a unrentable one. There were many efforts made by the lithuanian officials and institutions to regain this port back from latvian supervision and in march 1941 it was again won ~~to~~ by lithuanians.

Till march 1941 the fishermen of Sventoji and the port were administrated by latvians from Riga and lithuanian institutions had nothing to do with them . The fishermen fished as usually and sold the production as before for the merchants. Since march 1941 it came under the administration of the lithuanian People Komisariat of Food Industry (branch of fishery).

The system of communist administrated fishery was entirely centralised and socialized.The producers were organized to cooperatives, which made a prelude to the rybakkolkhozes. The switch from capitalistic system to socialistic one was slow, painfull and troublesome. In the main land, the fresh water fishermen were easy to orga nize to the cooperativesm because they got the from the former owner and renters the expropriated equipment(nets, boots, other installations). With the sea fishers was the matter different. They didn't obey the laws and recomendations of the new fishery administration and refused to give up their equioment voluntarelly. Just the former gouvernment built motor boats became state property and the fishermen had to perform the fishing against set , low prices. The rest resisted the attempts to drive them into cooperatives. Some pressure was used and the state stores of the motor fuel refused to sell fuel to them, who didn't want to jont cooperatives. But the poor fishermen went almost all to the old system of fishing direct from the beach on the small sail boats. They have lived pretty good, because the demand for fish arouse rapidly and the taste of the population, lacking many food types, changed consoderably. In this situation found the new war (Germans moved in Lithuania in summer 1941) the fishery of Sventoji.

The war was sudden. The russian run away very quickly, without to hurt the port installations or to deport the populations. Thus

the situation in the Šventoji area remained without big changes compared with the prewar period.

In the geografy of the port there were no changes in this period. The same way the gates were cleared from the drift sand and the motor boats went for fishing, which was pretty lucky. So in 6 months they have catched as much as usualy they got before during a whole year, it means 800.000. The same port administration remained. The leaders of it were in june 1941 deported to Siberia.
Among the port workers and fishers communists tried to organize the communist organisations,activists ect. Among curonian fishermen they had no succes.
In march 1941 the german and sovier Russias gouvernment have exchanged the population. The german people and the people who were german origin could go to Germany and the slavs and lithuanians from german occupied and ruled areas to Russia. This was a big chance for many non germans to escape from occupied Lithuania. Curonians , who were of protestant fight, had a chance to go also, but they remained in Sventoji.,
The communist gouvernment in Sventoji projected to construct the new big fish cannig and fertilizer and liver oil plant for 2.5 mil of russian rubles, with a capacity of 3-4.000.000 kg. of fish
The water breaks were proposed to extend and was foreseen 1.5 mil. rubles for this work. They ir goal was 4 metres depth at the outher gate.. They also proposed to construct 8 motor boats per one yeqr and to comlete the unfinished ones.There were many minor items projected , but the lack on essential goods didn't

allow even to strat those works. All it remained on the project ~~paper~~. desk.

Some reinforcment of the river banks and the fixing of the water breaks were made, but it was all very little. The fishermen had the same trobles with the going for sea and to come thrru the gates with the catch. It was prolonged some the e"stern quai in the back harbour "K" (see pg 101,102,103).

15. The coast defence 1940-1941

The russians strenghtenet the coast guard very considerably. Generally it was forbidden to enter the coast at non allowed places. Just few spots on the coast were foreseen to land for the fisher sail boats and there established the special barracks for russian guard. There were no special instalations or fortifications, even no mines laid down into ground. The guard was abundand , very alert, and used the watch dogs. Iy was very stricktly controlled and checked. The fishermen going to fish were inspected, as it was done if they used to come back.

The Šventoji was just few kilometers from the German border and therefore very disposed. Russians acted here very silent and didnt bother the population to much. They liked to avoid much rumors , which could go to the Germany and to the all world.

16. The situation in the Šventoji in theperiod of the german occupation 1941-1944.

There were no big changes in Šventoji after russians went away and the german came in. Remained all sysstem, which the russians established in Lithuania one year before,just the administration was

newly restored, the communist organisations removed some persons arrested. The coast guard was completed of few german soldiers, which have established here the radio station. They controlled the going to fish fishermen. The other duties were fullfilled by the lithuanian officials, who were in charge of the german economical organisations. They sold very restricted fuel and took the cathhes for the "Zuvies CO", which sold it for army and some for population. The prices set for the production were set very low ones and therefore the sea fish was abundant on the black market around the coast. The former private industrial enterprises , as it was allready at communist time, were kept by the german organization as the state property. The situation in the port was bad, the drift sand staedily blocked the gates.

In 1944, when the germans were defeted and withdrew on the Nemunas line, many curonians , especially owning bigger motor boats, started to smuggle the lithuanian intelectuals, which didn't want to stay under new russian occupation and didn't want to go for Germany. Thus many lithuanains appeared in Sweden. Sone curonians remai-ned in Sweden also, just the motor boats as russian state property sweds returned to russians.

In the mainland in this p eriod the sea fish was not available on the legal or black market.

PART V. THE TOWN OF SVENTOJI.

1. The situation in the 1918-1925. and 1925-1940.

It was not much difference in the geography of this area which was in 1916 and in the mentioned period. It is shown on the a map attached here pg. 167

During the next periode of 1925-1940 a small fishery port was built up, few brick and block house constructions constructed In this time were constructed:

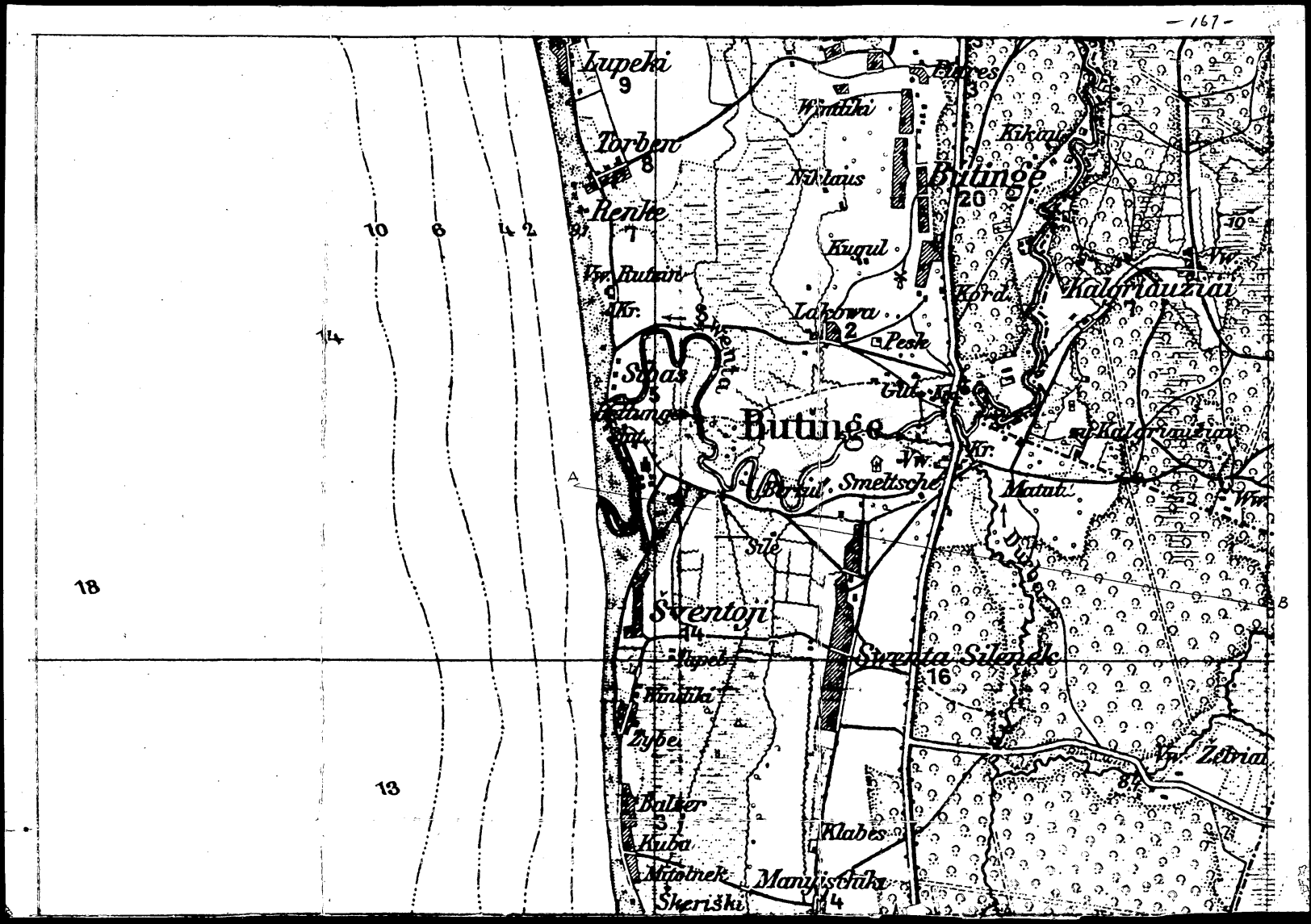
a. Maitenance shop to keep there tools and materials for water break construction. On the pg 168 it is shown under # 40.It is as large as 10 x14 x 3 m. Lumber construction, shingle roof, painted red with the swedish paint. Picture in Technika 1933 pg 177.

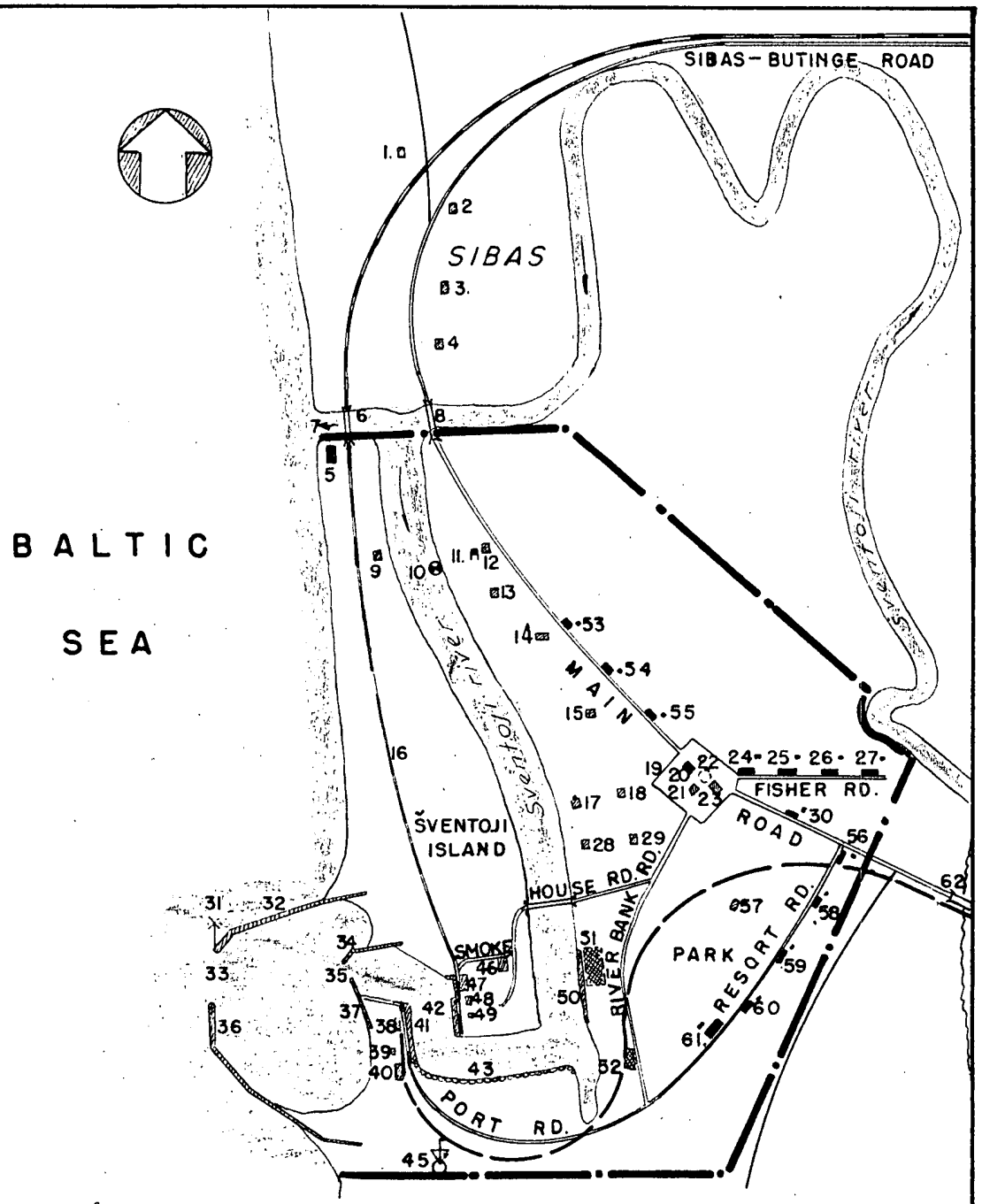
~~The xxxxxx~~

b. The ice house.

It shown under # 39 on the pg 168. Its picture is shown in Technika , pg 177. It is a combination of lumber and block house construction, with a shingle roof. It size about 6x6x2.7 m. The capacity of block ice, ~~xxxxx~~ cut from the ice cover of Sventoji river, about 100 cub. metres. The digging out in the soil 0.7 m. deep.The insulation stuff is saw dust. The thickness of the insulation walls 0.65 m. Its picture in winter is shown here on the pg. 82.

c. In early thirties was constructed a fisher boat-"kutter" construction shop. A lumber construction. Practically no heating there. Shingle roof. Picture pg 169 and 170. There ~~xxxx~~ used to be constructed 4 kutters annualy: 7-9 m. long and 2.5 -3 m wide.if loaded of 1.0 to 1.5 m. of sinking.It is shown on the pg 168 under # 38. The pictures on the pg 171 and 172 show the type of the workers





5-3 MAP OF THE DESIGNATION OF THE CONSTRUCTIONS IN THE PORT & TOWN OF ŠVENTOJI - 1944

SCALE 1" = 1 6 MILE = 880'
(SEE KEY ON THE PP.)

54.

Inside of the motor boat construction shop in Sventoji in 1938.

55

Inside of the motor boat construction shop in Sventoji 1938.

56 The launch of a newly constructed motor boat in Sventoji fishery port. 1938

57 Lithuanian workers of the motor boat construction shop in Sventoji .1938

, working there and their used tools.

Both of the constructions are put on the dunes, above the reach of the high water level in the Šventoji river.

d. On the island (see map 168 pg. under #46) was constructed in early thirties by the semi-gouvernmental enterprice "Zuvies B-vė" a lumber smoke house of the size of the maitenance house , see pg 166, p. a.Wooden shingle roof, painted red. It is visible on the picture on the pg. 171(a lower construction at right)

e. On the same island, see pg 168 under 47#, was constructed in early thirties a block house, belonging to the same "Zuvies Bendrovė", where were established an office, reataurant and a store This double construction(main construction with an appendix) had a shingle roof, painted red. It was 14 m. long and 9 m. wide. There was a seat of the border police some time.(few men) This construction is visible on the pg.171 left.

f. On the same island were constructed also ~~couple~~ few maitenance lumbern shops , shingle roofed to serve the terminal station at this spot of the narrow gauge rail road.They are showed on pg 168 under ## 48 and 49.

2. The roads.

The net of the old roads and their character is visible on the map on the pg.167.The y all were simple dirt roads, which in depressions had very primitive block bridges. They were subject to be overflooded if the water rised in Šventoji. They were suited to carry just horse carts, and even empty carts sometimes required 2-3 horses to be pulled out of the dirt.

In early thirties the administration of the fishery port begun to improve them, and some of them pretty considerable. The old net remained also in the thirties and even in 1944, just one new short ave was built, it the "Fisher Road ,pg 168 here.Generally all the dirt roads around Šventoji were improved either litlle or more seriously. In most of cases the roads were strenghtened with a lyier of haevy clay,and than solidly graveled. Thus they got passable even in long rainy weather. Surely for the horse carts. only.

The Town of Šventoji was just in project. It remained till 1944 still a village , belonging to the township of Palanga.There was no church, no sewer, no ~~running~~ proper water, no electricity . Besides of pretty an good new brick shhool, there were no other cultural institution available. The streets were unpaved,just graveled.

The border of the future town of Šventoji, shown on pg 168 are practicall but not official ones.

a. The most important road in this area , connecting the port of Šventoji with the main land is the MAIN ROAD*)It bounds the port with the highway Liepaya- Klaipeda, and by mean of the seriously graveled wide public road Highway-Darbėnai.It was reconstructed , elevated and new wooden bridge constructed over rivulet, flowing from the swamps in the south . (see pg 70 and 71). and ~~176~~ 177.

-) The streets in port of Šventoji were not named,the names given here are those, which the population names them practically.

b. The PORT ROAD (see #41 pg 168) is graveled one , 5 m wide, leading to the quai(western), maitenance shop and motor boat construction shop and to the southern water break.
At the beginning of the road there was proposed a terminal station "Šventoji", of a normal gauge rail road (#52 on pg 168). It ended at the northern end of the western quai of the fishery harbour (#41, pg 168). It was about 300 m. long.

c.THE RIVER BANK ROAD(see pg 168) lead from the terminal statipn of the proposed normal gauge rail road to the center of the proposed town of Šventoji.It was of the same structure as the Port Road. In the future it supposed to be the bussiest road-street in this area with much commercial trafic.(canning industry see pg 168 #51)

d. THE SMOKE HOUSE ROAD connected the Šventoji Island with the main landThe first designation of this road was to serve the smoke house on the island and after there was established a terminal station of narrow gauge rail road,to serve it too. It was about 3 m wide and not specially good maintained.

e. THE FISHER ROAD (see pg 168) was constructed entirely newly. It was 5 m. wide and properly graveled. It was about 230 m. long and served the new built cottages of the fishermen.(see # 24-27 pg. 168 here)

f. THE RESORT ROAD. (see pg 168)

It was projected that the northern area around Šventoji has to he a commercial one, and the southern a resort area. A scotch pine (Pinus sylvestris) park was grounded(see pg 83) about 7 hectars large. If it xxxnwas not destroyed during the autumn operations of 1944, so it could be about 25 years old. This park separated the commercial portion of the area from the resort area. The existing road was graveled,widened and improved. Alongside there were constructed modern (relatively) brick cotteges(see below).

g. The market xx plaza.

There was projected a plaza, which should make the center of the town and where were proj ected and partially constructed the necessary constructions: hotels, bank, stores, churches ect. Here was projected to be bored a deep artesial well to secure the area with proper water.

3. The brick constructions in port Šventoji.

They were constructed by the gouvernmental bank "Žemės Bankas" and sold on the fishermen, especially on those, who has joined the gouvernmental fishery in this port. on the gouvernment constructed motor boats. The conditions were easy to pay in a long term(20 years) Some of them were constructed for the purpose of port administration, some of them were of commercial(hotel, bank), others of cultural importance(school). The cottages and house were the only modern construction in a wide viccinity. Roofing was of stone tiles (red ones). The walls inside and outside were plastered with stucco mortar. The construction m aterial was proper one.

The electricity lacked and the lighting was provided by the kerosene

Only in the light tower was in use the acetilen light. Every two construction, some every one had the wells, made by the cement tubes. They were 1.5 to 2 m. deep..

Primitive lumber shanty type toilets were constructed over the simple dug out hole. They were located on the back side of the wooden sheds at the fishermen house or of the brick garages at the resort type cottages.

a. On the market was constructed one two stories brick, where was a hotel, cooperative store, a small bank-a savimgs and loan assosiation, police station. It was some 13x15x5.4 m. (see pg 168, # 20)

b. The fishermen houses at the Main road (see pg 168 #53-55 ~~village at the Fishery Road~~ wereconstructed ~~of~~ as brick houses of a georgian type. They had a second store under the roof (see pg 178)They were small:9x12x5.2 m. There lived two families in each of the ~~four~~ three houses. In the back yard were constructed wooden shanties-sheds.

c. In the Fisher Road fishermen village were constructed four prolonged, one store (two flat) brick houses of the size:8x16x2.7 m. (see pg 168, # 24-27)

d. In the REsort Road were constructed few two store cottages (see pg 83, 123) and pg 168 under ##56,58, 59 and 60)

e. A two story brick was constructed at the same road as a grammar school. It was 18x12x6 m. (see pg 168, under #61)

4. Miscalleneous about Šventoji.

In 1939 there were in Šventoji 5 telephone aparatus :

1 Post agency,2. Border police station,3 Township police station 4. Port administration and 5. Žemės Bankas contractor.

*)Lietuvos telefonų knyga 1939.

58 The Main Road north of the town market with the new brick cottages. 1939

59 Map of the Šventoji Port and Town.

In the borders, shown on the pg 168 here , in 1944 lived about 250-270 inhabitants(officials,fishermen and workers with their families)All town constructions have counted as many as 30.

5. The key to the map of designation ~~xxxx~~ (pg 168 here)

1,2,3,4	The farm steads of fishermen of Sibas.
5.	Salvation station.
6.	Wooden pile bridge over new bed of Šventoji river serving the narrow gauge rail road.
7. New bed of Šventoji	
8	New woodpile bridge.
9	Fisher house
10	Water stand registration station
11.	Meteorologic station
12.	The border guard barracks of the czar period
13, 14,15	Fisher houses
16	Narrow gauge rail road
17, 18	Fisher houses
19	Market plaza
20	Two story brick with the seat of the fisher cooperative, bank and postal agency and store
21	Old wooden restaurant and hotel
22Proposed artesian well	
23	Fisher block house
24-27	~~XXX~~ New one story bricks (two flats)
28,29	Old wooden fisher houses
30	New two story brick

31	Ligth tower
32	northern water break
33	Outer gate
34	Nobthern mole of interior gate
35	Interior gate
36	Southern water break
37	Southern mole of the interior gate
38	Motor boat manufacturing shop
39	Ice house
40	Maitenance shop
41.~~Wax~~	Western quai of the fishery harbour
42	Eastern quay of the fishery harbour
43	Field stone reinforcement of the river bank
44	(left out)
45	Signalization station
46	Smoke house
47, ~~XKOXX~~	Store, office of the "Žuvies bendrovė", police station
48	Restaurant
49	Maitenance shanty(shop)
50	Eastern quay under construction in 1938-1940
51	Proposed fish canning plant
52	Proposed terminal station of the normal gauge rail road "Šventoji"
53-55	Two story bricks
56-~~60~~58, 59 and 60	New two story cottages for resort purposes. In one of them was the office of the port administration(58)
57	Fisher block house
61	Two story brick school.

PART VI. PRESENT SITUATION IN ŠVENTOJI.

THE PRESENT SITUATION IN ŠVENTOJI

1. Sources.

The soviet press gives about fishery economy in Lithuania pretty good informations, they are more abundant as those over other economy fields there. Anyway over the fishery in Šventoji the informations in the soviet press are very scarce and many of those were not available to the author. Some informations were taken from the lithuanian emigrant press, unless the ~~kkk~~ wishfull thinking of the informators sometimes could give wrong or misleading ones.

Informations of the all sides indicate that the Šventoji fishery port was abandoned for long time and that the fishery there was renewed again just about ~~1955~~ 1951. and only at small scale*). The reasons why it came were not to find and could be supposed that the port installations were idle because of the damages caused by the battles in this area in the autumn of 1944 and of the big masses of the drift sand, which has blocked the coastal waters with sand banks.

Generally should be said here that the author in many ases put here his speculations and suppositions, because of inadequate informations.

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*) K.Bieliukas. Litovskaya SSR.1955, pg 362.

2. THE PRESENT NAME OF ŠVENTOJI.

In russian Šventoji fishery port is known under the name of "Sventoji Primorskaja". The native vessels are marked in russian transcription "ШВ".

3. THE TOPOGRAPHY OF ŠVENTOJI AREA

Because of the big masses of the drift sand, brought over there during 1940-1944, the contour lines of the bottom supposed have lost their smooth and parralel direction and now have to make a wide loop around the waterbreaks. The beach should be much larger as it was before. *)

Regarding the sand dunes, so there supposed to be no changes, just the question is about the reforestation of them . So since 1925 there were planted scotch pine plantations, which were pretty succesfull and when they are not destroyed by the war(the battle line there lasted from end of the September to the middle of february 1944-1945), so they could form now a pine stand of 25 years old.

The battles in 1945 (february) on the Curonian peninsula entirely destroyed the forests and dune sand reinforcement and the restoration of this area will require hundrets of years**).

The sand dunes region is a first line of the coastal defence of russians. One kilometr wide coastal stripe is a zone, where

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*) K. Beliukas. Litovskaya SSR.1955 , pg 348
**) Mūsų Girios" 1957, Vilnius, #3.

nobody can enter. It could be guessed that this stripe is mined , as usually the border strips, situated closest to the border. *) The nowadays lithuanian (soviet) foresters **) complain over the planting on the Curonian peninsula, but nothing say over the necessity to do so in the area around Šventoji.

Generally,tthe new economy system, which has expropriate the private land property, has to cause the increase of the bush areas, especially inthe moist areas. Thus the swampy peat bog, meadow and pasture areas shoud now look more bushy, as it was before, because they have no more owners, who were allways interested to keep bushes down and to win more usefull land.Now the 0.6 ha large land areas are left to the former owners, around their living and farming structures, to have a garden and some pasture for their domestic animals. The remnant area is a property of the state and is cultivate by special institutions socialized, like kolkhozes, sovkhozes ect. The arable areas around the Šventoji are extremely poor and it is very doubtfull that there is a intensive cultivation of the land. The close marine border, the necessary fortifications and instalations have to bother the agriculture very much and therefore, supposingly the arabele plaines as much as the moist depressions (peat bogs, meadows and pastures) should be covered with a most dense cover of bushes as it was before war. **)

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*) Naujěnos , 1958, #40. Pabaltijo kraštai....
**) Supposition of author.

The mentioned bushes should be not dense, because the thickes assortment supposed to be taken out by the native population as fuel material. The bushes supposed to be used for this purpose very sharply, because the fuel assignments to native population from the state forest is negligible. Thus in the all fuel economy of the soviet Lithuania the peat fuel have to cover 40 % of the demand.*) which has to be produced by the population itself. About 10 % were covered by the from polish Silesia imported mine cole and 50% by the assignments from the state forests. The state forests are overcut (just 7% of ripe stands, chiefly in far from the populated spots located swampy forests)and can deliver just the material of thinnings and cleanings of the young stands. Thus the peat bog exploatation is pretty forced and the peat bogs along the Baltic shores should be exploited very much. The area of the water filled peat holes with due and areas in this area should be increasing.

The forests, as mentioned above are overcut in all country and in the area around Šventoji with a high rate of population and very high demand on wood fuel,they were exhausted allready before the war. Now there are around only dense young pine stands, with some areas of young black alder thickets in depressions.Among the dense young pine stands there are abundand thickets of grown up young stands, which

*) Naujenos, 1957, #177

average thickness is about 15 and some 20 cm (6" and 8")
Those stands are usually 10-12 m. high (33 -40')
The forests are pretty dense, as usually the young stands are
They have to be thinned and cleaned very intensively, especially in autumn and winter.
There are indications,*) that the forests east of Šventoji are prohibited to enter to the population and that there are stationed some russian army formations. Because the high water table over all coastal strip up to the forest line, there are not possible some more serious fortifications and constructions and therefore it is very possible thet they are established in the forests themselves.**)
The roads have lerned some changes, especially the important highway connection between Liepaya and Klaipeda, which runs thru the Šventoji area.
In 1944 (autumn and summer) the active battle front came to Lithuania. The haevy new type tanks of russians almost entirely destroyed the weak pavement of these lithuanian highways***) , especially on the turning points.
The existing bridges got to weak to carry haevy equipment
Many bridges were blown up , the wooden-burned down. The russians faced very ernest problem of the ruined highways after war in Lithuania. Just the most importamtm strategic highways were restored, reconstructed and new bridges built. Among them was reconstructed, widened and reinforced the highway

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*) Naujenos Dec. 14, 1956
**) Supposition of theauthor
***) See construction of the lithuanian highways pg 69

passing the Šventoji area. *) The pavement got the bituminous (concrete surface. Supposingly**) the highway bridge in Butinge over Šventoji river is rebuilt.

The local roads supposed to be in even worse condition as before war.

The normal gauge rail road, proposed in 1939, which was under construction till 1940, is not mentioned in the soviet sources and is not marked on the soviet maps. Some informations indicate that***) in Šventoji is working new built fish canning plant (soviet inform it also) and that there are preparations made the finish the construction of the normal gauge rail road. . It is very possible****) since the communist gouvernment ~~runs~~ manages the fishery port in Šventoji and a fish canning plant.

4. THE BALTIC SEA.

The Baltic sea to be staedy in slight changes, which are of no importance to the navigation or the fishery. Thus*****) The trend of those changes are 1)some warming up of the Baltik sea water and 2) slight increase of the salinity ,3) appearance in the

of new species of fishes, which like more warm water as it was before in the Baltic

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*) K. Bleliukas. Litovskaya SSR, 1955, pg 183,347,360
**) Author
) Naujėnos 1956. *) Author. *****)Information obtained from capitan at sea Brakas, living at present in Kobenhavn, Danmark. Author.

5. THE PRESENT POPULATION AND THEIR STATE OF MIND

The compound of the population has changed in Šventoji very considerably. *) Thus there are indications that some entire villages were destroyed and their inhabitants moved from there**) . The fishermen population seems to be transfered from the idle fishery port of Šventoji to the Smelte, near Klaipeda, where after the war was set a big fishery fleet bassin. An other since end of war existing sea fishery base (fishing directly from the sea beach, was established on the Curonian peninsula opposite to fisher village Nida where the curonian fishermen could be translocated and than after 1955 moved again to Šventoji.***)

The fishery is now in soviet Lithuania one the best paid jobs and there are meny applicants for fishermen not only among former sea fisher, but among the fresh water fishers and even volunteers from proper Russia.

Now, when the native fishers could not form own crews of the fisher motor boats, they have to obey the communist rules. Thus they form crews mixed up of all nations, to avoid the conspirac y and escaping to Swede, The mutual disagreement between native and starnge (russians) nations form the distrustfull air, which is the goal of the communist gouvernment.

The russians suppose to penetrate the fishery economy very haevily, especially they supposed to setle dense on the coast of the Baltic sea. They help to controll the other nationaly groups. The communist controll in this field supposed to be complete.

The soviet gouvernment runs two sea schools, in one is forsed

*) Neprklausomoji Lietuva, Toronto, 1951
**) Case of Lazdininkai, Naujėnos 12.14.1956
***) Supposition of author

fishery. There are admitted young people who are entirely loyal to yhe communist system. If the students are not all of them communists, so are they choosen from the poorest poppulation, which was ~~allways~~ chiefly is indifferent. and not particularly dangerous to the communists. Those professionals in most cases are the fishery economy leaders, capitans and officials and along with them are the ears and the eyes of the gouvernment.

The older mass of the population is not organised, even more watched over by the communist officials, is politically impotent and indiferent "any of the fishermen now earn more money as befoare and a special discontent or demonstrations are not believable. One is sure: when a serious international struggle will take place the population will stop to perform their duties and jobs.

Population, supposed to live in old wooden structures, and like other kolk hozniks , keeping some domestic animals to support their existence. They should be in bad shape, because of lack on necessary material(lumber, blocks,bricks ect.)

The dressing of the people and a gommon outlook should be poor. The clothes should be strongly worn out.

6. COASTAL GUARD AND DEFENCE.

Thies matters are the author not known well and here put are some informations, taken from the emigrant press.

The Šventoji area, the coast between Klaipeda and the Papes lake in Latvia is the most vulnerable spot in the russian defence system. Here is the only festland , which can be easier invided, compared it with the coast south(Curonian penisula and Bay of Curonia)and north (the swampy areas of Latvia there) and therefore it is natural, that russians should guard and fortificate it seriously. The prohibited zones along the coast in Šventoji area, lack of informations about it, the military formations in the forests east of the Šventoji indivate that russians guard the area tightly. In the same time the Curonian peninsula has no restriction of this type, and there are possible even a reforestation of the dunes.

The headquater of the coastal guard is located in Palanga*) On the coast are constructed watch towers and a telephon connection.

The guard is formed of ~~xxxxx~~ several guard lines, checked and controlled very tightly. The border guard uses watch dogs.

7. THE PRESENT STAND OF THE FISHERY IN ŠVENTOJI.

It was said that the Šventoji fishery port was long time idle, because of the sand drift banks and possible destructions during the war.

In ~~1955~~ 1951 the port was active, but only on.a small scale. The native fisher population seems was moved to Nida or Klaipeda, where the sea fishery was organized since end of last war. In 1951-1952 ~~from~~ Nida sea fishery base ~~were transfered to~~ Šventoji and of 19 trawl and 40 [illegible]

*) Grišmanauskas. Tolimieji kvadratai.

IN Šventoji since than is working a MTS (Motor-tractor station) which rents the boats to the fishery collective "Žuvedra".The repair shop is available just in Klaipeda*) . It seems that in Šventoji is no more a motor boat manufacturing shop.There is constructed a new ice house (supposed to be of more serious construction as it was before) and a new fish canning plant constructed**)

There are fishing about 100-150 motor boats and trawl boats with about 300-400 active fishermen . The type of the fishery supposed to be a coastal one, in the fartest distance of 150 km.***) because of the small size of the motor boats, which motor power supposingly is not much higher as before the war it was. Most of them are all-ready old vessels. and requiring staedy repairs.

The fish canning plant supposingly(author) is figured out for the raw fish production of 2.5 to 3.0 mil kg . Along with the fish meat canning there are installations to make fertilizer, fish glue and cod oil. Supposingly(Author) the production ihas to be: 30%% of fish meat and 60 %% of fertilizers.(smelt and cod remainders).

Nothing known about iodine production.

The basic fish is still cod. The catches of herring(baltic) salmon and spratt are in declining. Soviet sources don't mention the flounders in the annualy catches.

It looks that the coastal waters are used very intensivelly and that the natural resources are overfished. It was started to catch new species, which former were not in wide use, so now is catched the sargan-the sea pike Belone acus euxini****)

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*) Sovetskaya Litva 253, 1952
**) K. Bieliukas, Litovaskaya SSR.1955 ,362.
***) Supposition of the author
****) Sovietskaya Litva 219,1952

The same sources claim 20 regular trips in summer and spring and 40 trips (per boat) in autumn and winter. Summer trip 6-7 days, winter-2-3 days. The soviet sources claim the new advanced catch technik, even is in use the electric light as lure. Thus now are in use the new type of nets: trawl net of 500 m. lengthh, and even 800 m. (300 m. length used before). Some new installations allow to fish at storms of 7 balls strong (15 m/sec.). There supposed to be in use special stationary nets of 500 m. of length and special trawl nets to catch baltic herring and salmon.

Tye fisher fish under the eyes of the coast guard ships and it is not allowed to go to far.

The catch norms put on the individual motor boat or a trawl boat are high and the fishermen have to work very hard. The catches are delivered to the gouvernmental fish bases of, wich one is located in Šventoji.

The retail prices of the fish in the state stores are high 5 to 10 rubles a kg. The fishermen get about 30% of the price in the retail stores. The fish pilfering is common. Black market is existing. The fish as food product, unless the catches arouse almost 15 times compared with the 1938, is scarce.

It is very possible that the both outer water bzeans are extended as far as it was projected in 1924 and in 1940 (see maps on 101-103. a dashed extensions of the water bzeans).

C O N T E N T S x)

x) very valuable illustrated material to be

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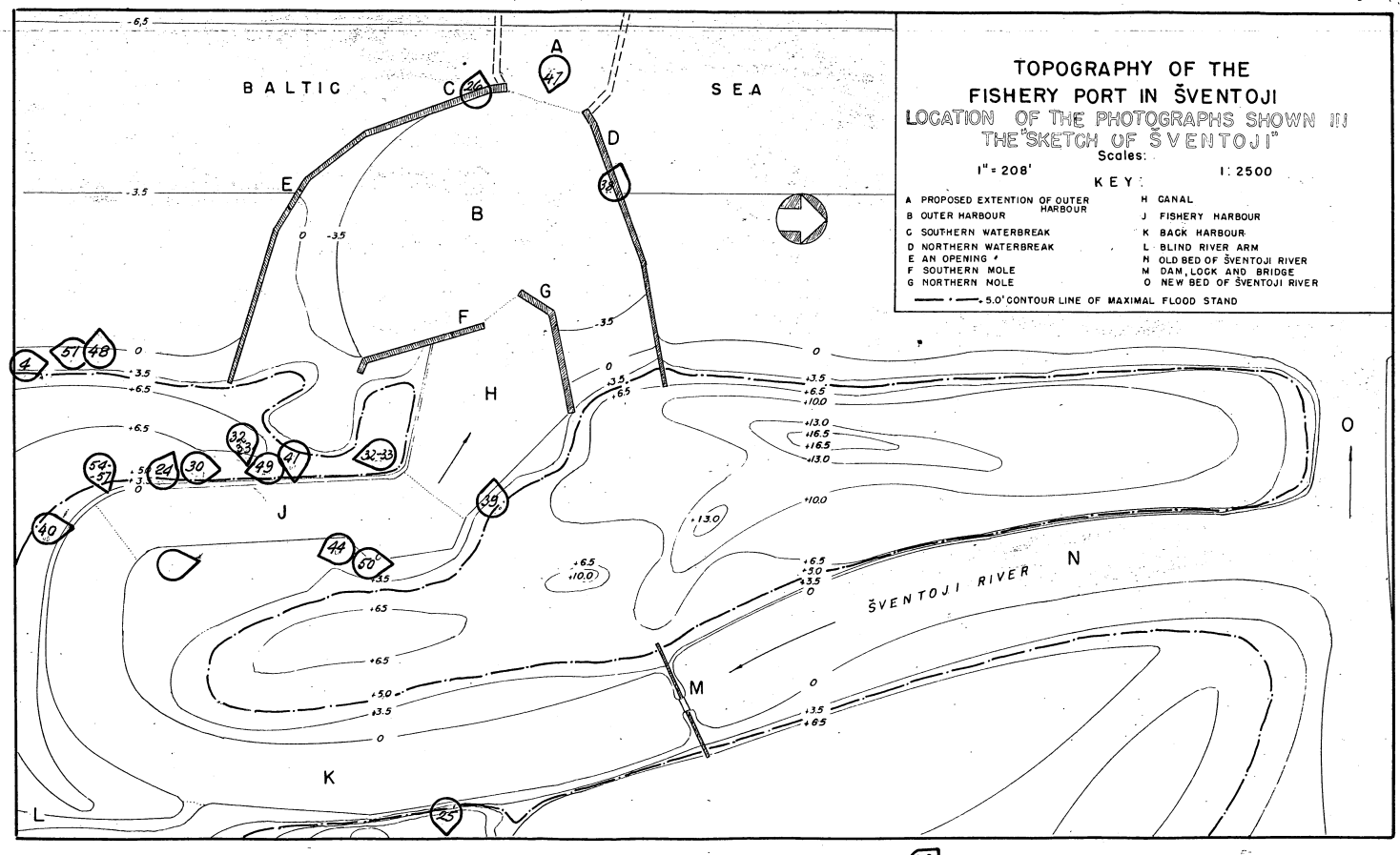

TOPOGRAPHY OF THE FISHERY PORT IN ŠVENTOJI

LOCATION OF THE PHOTOGRAPHS SHOWN IN THE "SKETCH OF ŠVENTOJI"

Scales:

1" = 208' 1 : 2500

KEY:

A PROPOSED EXTENTION OF OUTER HARBOUR	H CANAL
B OUTER HARBOUR	J FISHERY HARBOUR
C SOUTHERN WATERBREAK	K BACK HARBOUR
D NORTHERN WATERBREAK	L BLIND RIVER ARM
E AN OPENING	M OLD BED OF ŠVENTOJI RIVER
F SOUTHERN MOLE	N DAM, LOCK AND BRIDGE
G NORTHERN MOLE	O NEW BED OF ŠVENTOJI RIVER

—·—·— 5.0' CONTOUR LINE OF MAXIMAL FLOOD STAND

LIST OF THE DRAWINGS AND ILLUSTRATIONS

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